ALL HANDS

MAGAZINE OF THE U.S. NAVY

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Covers

Front: The research submarine NR-1 leaves its base at Holy Loch, Scotland, for waters off Iceland. Photo by Emory Kristof. See story on page 24.

Inside front: Navy divers from Underwater Construction Team 1 return to the U.S. after their flight was hijacked by terrorists. Shown, bottom to top, are EA1 Stewart L.J. Dahl, EO1 Jeffrey J. Ingalls, SW2 Kenneth M. Bowen, and CE2 Clinton L. Suggs. Not shown is CE2 Tony D. Watson. Photo by PH1 Douglas P. Tesner.

The Naval Reserve
One of the biggest

By Lt.Cmdr. Tracy D. Connors

"By the end of this decade, the United States Naval Reserve will be the 10th largest and strongest Navy in the world. Not just in the free world, but in the entire world."

—Rear Adm. Cecil Kempf,
Chief, Naval Reserve

One of the biggest stories in the Navy today is the Naval Reserve and the changes it is undergoing. It has, and is getting, more and better people. It is sailing the Navy's most modern ships and flying state-of-the-art aircraft. It is taking on new missions that only a few years ago would have been impossible.

"This past year witnessed a remarkable expansion in the size and capability of the Naval Reserve," noted Adm. James D. Watkins, chief of naval operations. "And, we intend to build the Naval Reserve Force into an even more capable part of the Navy team. Today, the Naval Reserve is an indispensable component of the Navy. Without its important contributions, we would not be able to fulfill our forward-deployed, high-op-tempo commitments."

To many Americans and, perhaps, even regular Navy personnel, the Naval Reserve is still a pool of replacements meant to fill the Navy's ranks only in time of war. Historically, that has been the role of the Naval Reserve and is still a part of its mission.

"We need a Naval Reserve," explained Rear Adm. Cecil Kempf, chief of the Naval Reserve, "because our country cannot afford a full time standing naval force to meet all the commitments we have during mobilization. The majority of peacetime commitments must be met by the active forces. Naval reservists simply cannot fulfill deployment roles, at least on a long-term basis. While a large standing force is needed during mobilization, such a force is not affordable during peacetime. The difference between what is necessary and affordable during peacetime is met by the reserve forces."

With more than 40 treaty commitments around the world, the United States needs more than 600 deployable, warfighting ships. According to Kempf, this is in addition to the required number of support ships, many of which are not deployable.

Of those 600 ships, the Naval Reserve will have about 45 by the early 1990s. "It is not as if we have 600 ships and the Naval Reserve, (but that) the Naval Reserve will comprise a significant portion of the 600-ship Navy. The Naval Reserve is no longer a force in reserve, it is a force in being," he said.

"People keep saying: 'What about this Total Force concept?' It is no longer a concept. We are here. During this last year we have moved from the conceptual into reality with Total Force," Kempf said.

Lt.Cmdr. Stephen Carlin, QMC Morton Clotfelter, YN3 Jessica Levonowicz and Cmdr. Charles Wilcox.

stories in the Navy

A sizeable force

Today, almost 400,000 men and women are in the Naval Reserve. The bulk of these are members of the Ready Reserve. The core of the Ready Reserve is made up of the Selected Reserve, a subset of the Ready Reserve. There are more than 100,000 Selected Reservists who drill one weekend a month and perform two weeks of annual active duty. These are the "active" inactive reservists.

Naval Reserve Total Force mission areas

(by percentage of Total Force)

Fleet logistics support squadrons (VR) (U.S. based)	100%
Helicopter attack squadrons light (HAL)	100%
Combat search and rescue helicopters (HC)	100%
Naval control of shipping (NCSO)	99%
Cargo handling battalions (RCHB)	86%
Military Sealift Command (MSC)	85%
Mobile construction battalions (RNCB)	68%
Special boat forces	66%
Patrol aircraft (VP)	35%
Intelligence personnel	34%
Fleet composite squadrons (VC)	33%
Medical support personnel	22%
Carrier air wings (CVWR)	14%
ASW frigates	6%
Amphibious ships	3%
Submarine support personnel	1%

Top: A reservist crew mans the bridge of USS Duncan (FFG 10). Above: Lt.Cmdr. Andy Grigsby operates a tactical display on a P-3B Orion.

Naval Reserve

The remainder of the Ready Reserve is made up of some 74,000 people on full time active duty. This includes about 14,000 career active duty reservists responsible for the training and administration of reservists—TARs. Another 70,000 individual ready reservists who do not drill or who drill without pay are assigned to voluntary training units. About 9,000 Naval Reserve Officer Training Corps cadets are included as members of the Ready Reserve.

The Selected Reserve is the center of attention in the Naval Reserve. These are the currently trained men and women who would be mobilized first in a national emergency or for operational needs. Almost all are veteran regular Navy sailors.

The bulk of the Selected Reserve, almost 80,000, serve on the surface side. They train at 237 reserve activities in every state. The centers are administered by 16 readiness commands. Also included in the surface reserve are 17 reserve mobile construction battalions, the Seabees.

The other 23,000 selected reservists serve with the naval air reserve in more than 50 squadrons at 23 sites in the United States. They operate more than 425 aircraft of 15 different types.

There are three types of Selected Reserve units:

- *Commissioned units*—complete operational entities such as ships, squadrons and construction battalions.
- *Reinforcing units*—trained reservists ready to augment active Navy ships and squadrons.
- *Sustaining units*—meant to augment active Navy bases, stations and other support organizations.

Commissioned units in the Naval Re-

The Naval Reserve Forces

Sea forces
- 34 ships
  - 11 frigates (FF/FFG)
  - 1 destroyer (DD)
  - 18 minesweepers (MSO)
  - 2 tank landing ships (LST)
  - 2 salvage ships (ARS)
- 4 special boat units

Shore and support forces
- 12 cargo handling battalions (CHB)
- 17 mobile construction battalions (MCB)
- 17 mobile inshore undersea warfare units (MIUWU)
- 6 craft of opportunity units (COOP)
- 2,500 reinforcing and sustaining units

Air commissioned units
- 51 aircraft squadrons
  - 2 carrier air wings
    - 4 fighter squadrons (VF)
    - 1 strike fighter squadron
    - 5 light attack squadrons
    - 1 light photographic squadron
    - 2 carrier airborne early warning squadrons (VAW)
    - 2 tactical electronic warfare squadrons (VAQ)
    - 2 aerial refueling squadrons (VAK)
  - 2 patrol air wings
    - 13 patrol squadrons (VP)
  - 1 helicopter air wing
    - 1 helicopter combat support squadron (HC)
    - 2 helicopter attack squadrons light (HAL)
    - 2 helicopter anti-submarine squadrons (HS)
    - 2 helicopter anti-submarine squadrons light (HSL)
  - 1 fleet logistic support wing
    - 2 fleet composite squadrons (VC)
    - 12 fleet logistic support squadrons (VR)

Naval Reserve support facilities
- Surface
  - 219 Naval Reserve centers
  - 16 Naval Reserve facilities
- Air
  - 6 naval air stations
  - 2 naval air facilities
  - 7 naval air reserve (area)
  - 8 naval air reserve centers

Far left: CE3 M. Reiber runs outside electrical wiring for a building under construction. Left: MR1 Edward Lucero uses an engraving tool. Bottom: Two reservists hook up a tow bar.

serve today include nine modern frigates, 18 minesweepers, four special boat units, six cargo handling battalions, two carrier air wings, two patrol wings, a helicopter wing, and a fleet logistic support wing.

Reinforcing and sustaining units are made up of experienced professionals in more than 30 fields, including medical, submarine forces, unified/joint shore commands, intelligence, military sea lift, air systems, merchant marine, law, public affairs, and oceanography. This is the pool of trained manpower, traditional in the Naval Reserve, that can fill regular Navy billets as needed.

The men and women comprising these reinforcing and sustaining units know where they are needed if mobilized. As often as possible, they train with their gaining command on weekends and usually on annual active duty. During their active duty periods they take their turns at the helm, stand watches and handle the same assignments as do their regular Navy counterparts.

Commissioned units would mobilize as well-trained teams to man ships, squadrons and battalions.

"There are many things that the Naval Reserve can do very well, or even better than the active forces due to experience," said Kempf. "Many of our reserve patrol squadrons are able to go out, even with slightly less modern equipment, and do a better job than active duty squadrons with better equipment," he said. The reason: "Experience, plus years of working together. Some of those crews have 15 years' experience together. That's a very significant asset. In some cases, you can make up with experience what is lacking (at least temporarily) in equipment," he explained.

Kemp said the Naval Reserve has done almost too good a job recently in showing the capabilities of the Naval Reserve. "Now we find that our plate is just about full. Everyone has jumped on the band wagon of planning for us to take on additional missions, plus performing more of the Navy's peacetime missions. Now we run the risk of becoming the answer to everyone's prayer," he said.

One of Kempf's major challenges is "to make sure that anything we undertake, we can do well. It would be very bad for the

country, for the Navy, and for all the loyal, dedicated naval reservists who are out there trying to do their best to take on a mission that we cannot adequately fulfill. The secretary of the Navy, the chief of naval operations, and I all agree on this."

Horizontal integration

In the past, the Naval Reserve was often issued equipment no longer needed by the regular Navy, much of it outdated and incompatible with the regular Navy mission. This problem was addressed in 1982 when Secretary of the Navy John F. Lehman Jr., a Naval Reserve aviator, announced a drive to update Naval Reserve equipment. He called it "horizontal integration."

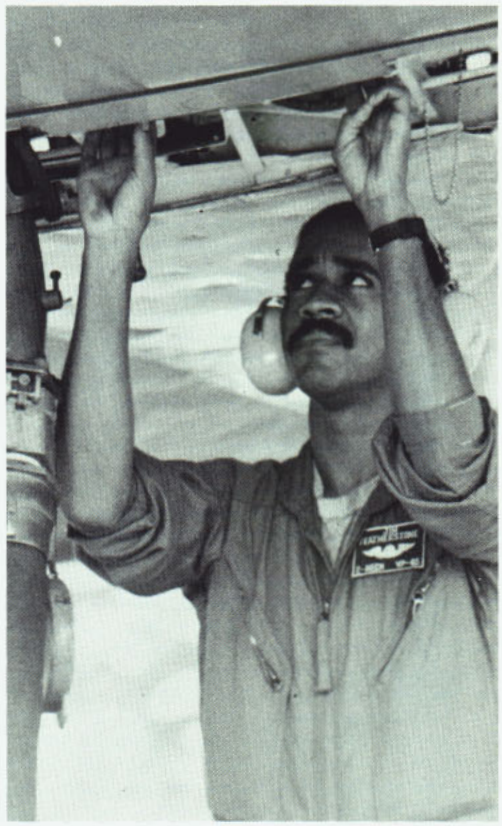
Kempf calls it "a great blessing." He said, "What this means is that the Naval Reserve wants to and should operate the same equipment as the active forces."

By the end of 1982, four *Knox*-class frigates were part of the Naval Reserve Force. Since then, two additional *Knox*-class and three *Oliver Hazard Perry* FFGs have been added. By January 1988, the NRF will include 24 frigates. "Front line equipment," noted Kempf. He pointed out that the Naval Reserve is "going to get brand new ships when the MCMs and MSHs, our two new mine countermeasures ships, are completed."

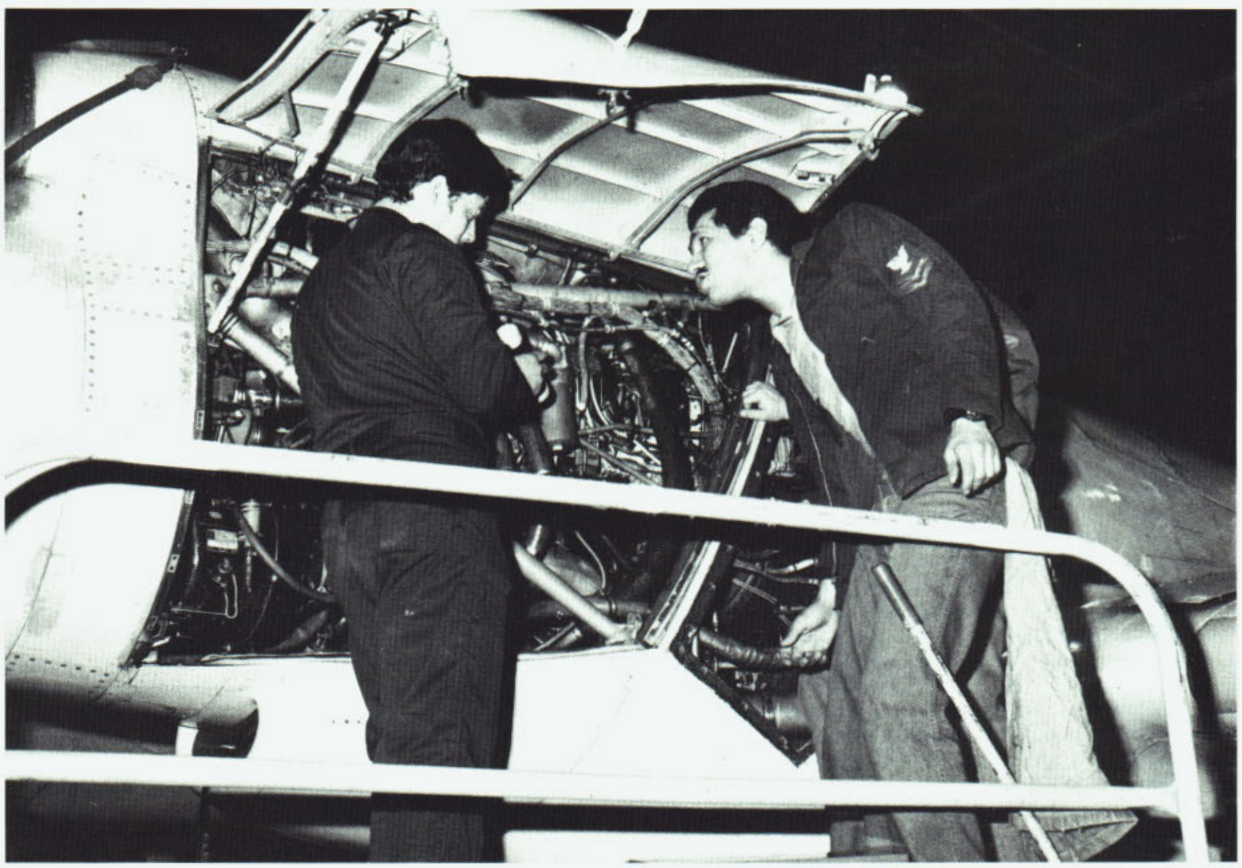
A total of 14 mine countermeasures ships are planned for construction, with delivery of the first ship in 1987. Fourteen mine sweeper/hunter class ships are planned, with the first ship scheduled for delivery in 1989. The Naval Reserve Force will receive eight of the MCMs, and all 14 of the MSHs.

"The commitment is there to modernize the Naval Reserve, both for surface and air forces," Kempf said.

Recently, reserve Attack Squadron 303 moved from Naval Air Station Alameda to Naval Air Station Lemoore, Calif., and became VFA 33, the Naval Air Reserve's



Right: AE2 James G. Featherstone helps refuel a P-3 Orion. Below: ADAN C.M. Riccio and AD2 J.C. Laureiro work on an aircraft engine.



first F/A-18 strike fighter squadron. Squadron members are flying with VFA 125, a Lemoore regular Navy F/A-18 squadron, until they receive their own aircraft.

Helicopter Anti-submarine Squadron 84 recently became HSL 84 when the squadron acquired SH-2F *Seasprite* helicopters. This upgrade in equipment now enables the Naval Reserve to unite its frigates and helicopters in meaningful missions.

Early Warning Squadron 78 in Norfolk, Va., has now completely transitioned to the E-2C *Hawkeye*. It was this squadron which sent crews to the Mediterranean to augment regular Navy crews as previously mentioned.

Attack Squadron 203 at Naval Air Station Cecil Field, Fla., has upgraded from the A-7B to the A-7E, and another reserve squadron, VA 205 at Naval Air Station, Atlanta, Ga., is undergoing the same transition.

Naval Reserve P-3A and P-3B *Orions* are being equipped with TacNavMod systems that will bring them up to par with the regular Navy's P-3Cs. The upgrade should be completed by late next year.

Training

"All of our training is geared to mobilization readiness," Kempf said. "Every single thing we do has to have a mobilization requirement attached to it. We also do many other significant things to assist the active forces—mutual support, we call it. However, mutual support must be a by-product of mobilization training we conduct."

Training reservists in landlocked areas of the country has been a particular problem, especially for surface sailors. Two methods are used to overcome the problem.

One is the shipboard simulator—SBS, a space-age computer system that brings the ship to the sailor. Plans call for 44 SBSs and another 67 damage control centers located inland throughout the country. Over half are in place now.

Although similar to a ship for training purposes, an SBS is not quite the real thing. So, if a sailor in Kansas has a mobilization assignment to a ship, he packs his bags and travels to that ship several times each year. Called weekend away training, or WET, it is a proven cost-effective way to fill the reservists' needs for hands-on training.

The newest ships in the Naval Reserve inventory are the frigates, homeported in Newport, R.I.; Long Beach, Calif.; Charleston, S.C.; and Philadelphia—areas offering large numbers of reserve surface sailors.

Under operational control of the regular Navy, these frigates are manned by Selected Reservists, TARs, and regular Navy men.

To support these ships, four Naval Reserve Shore Intermediate Maintenance Activities were established. Manned by a mix of regular Navy, TAR and selected reservists, the SIMAs often support reg-

Below left: BU1 D. Hubbard and a fellow reservist discuss building specifications. Right: ET2 Wayne Tajiri and ET2 Thomas Giedroc check a radar repeater.

ular Navy ships. In addition to the SIMAs, there are four Naval Reserve Maintenance Training facilities, located in Orange, Texas; Great Lakes, Ill.; Long Island, N.Y.; and Puget Sound, Wash.

Mutual support

The Naval Reserve has a comprehensive program of mutual support with the regular Navy and, in some instances, carries the entire load. This assistance has increased substantially over the past year.

For example, fleet exercise support was provided by drilling reservists from most surface programs:

- Shore Intermediate Maintenance Activity reserve units provided more than 118,000 man-days in direct support of ship overhaul and rework projects.
- Supply Systems Command units performed active duty training and weekend drills in stock control, warehousing, traffic management, and stock purification.

Sea-Air Mariner Program

The Sea-Air Mariner program—SAM—originated in 1983. Since most vacant Naval Reserve billets consist of paygrades E-2 through E-4, the Navy decided to recruit non-prior service men and women. A guiding factor in the SAM program was the need for quality as well as quantity.

The Naval Reserve was authorized to recruit 10,000 SAMs a year for the first five years.

Young men and women can be recruited from age 17. If a high school junior joins the Naval Reserve, he or she can attend recruit training during the junior-senior summer and return home for the final high school year. After high school, a SAM may attend a Navy "A" school or may remain with his or her home town reserve unit for on-the-job training.

About half of the SAMs will qualify for "A" school and many will be selected for "C" schools. After these training periods, SAMs drill in or near their home towns and perform active duty training annually.

About one out of five of new SAM recruits is scheduled to become a member of the Naval Reserve's medical force.

EO3 R. Rodriquez constructs a cement form.

- Selected Reserve physicians contributed more than 8,100 man-days of health care services in Navy medical treatment facilities, including services to retired personnel and their dependents.
- Naval Reserve chaplains provided 3,400 man-days of religious support to a wide variety of active duty commands.
- Naval Reserve Security Groups provided 37,000 man-days in support of a national cryptologic project.
- Naval Reserve staff augmentation units stood watches at various command and control centers within the office of the chief of naval operations, fleet commanders in chief, and type commander headquarters. This effort substantially enhanced active duty personnel morale by alleviating excessive watch standing required due to personnel shortfalls.
- Reserve naval construction battalions contributed more than 20,000 man-days in rehabilitation projects in U.S. and overseas locations.
- Reservists from 16 readiness commands provided 10,000 man-days to the battleship *New Jersey* in most shipboard specialties.
- Mobile Inshore Undersea Warfare Unit personnel provided anti-terrorist protection through underwater surveillance at the 1984 Olympics in Los Angeles.
- Active fleet units received 94,000 man-days of exercise support services from surface naval reservists.
- Naval air reserve patrol squadrons flew 46 weeks of support from advanced bases at Lajes, Azores, and Misawa, Japan.
- Reserve utility squadrons supported fleet units with more than 6,000 hours in dissimilar air combat maneuvering, air intercept, radar tracking, and adversary services in fleet exercises.

Manpower requirements

As the Naval Reserve's missions increase, so will its manpower requirements. As the regular Navy projects its own future strength through "Manpower Mobilization Systems," it also determines the number of reservists needed for mobilization.

Next year the NAMMOS requirement will be 125,000 Selected Reservists or about 22,000 more than at present. According to Kempf, it will be one of his "biggest challenges to recruit, train and retain good people. However, he said that we are moving very rapidly into Total Force retention. For example, if an active duty member has decided to leave active

duty, then that member can still be a part of the total force by affiliating with the Naval Reserve.

"That member should be told about the Naval Reserve and the opportunities to serve and advance as a reservist," Kempf said. "We should make every effort to make it as easy as possible for that member to make a smooth transition into the Naval Reserve. We need that talent, and we simply cannot afford to keep training fine young people, only to see that talent leave the Navy. We need that talent, those skills and that leadership, now and during mobilization."

Speaking to Navy members who may have decided to leave active duty, Kempf urged them to consider and to decide to affiliate with the Naval Reserve. "Not only will it be good for you monetarily, but you can continue to gain retirement points," he said. "A Naval Reserve retirement, while not so large as one earned by an active member, is still well worth considering in terms of overall personal financial planning." □

Conners is a reservist on active duty with DCNO for surface warfare, Washington, D.C.

Future Missions for the Naval Reserve

The future undoubtedly holds new missions and challenges for the Naval Reserve. Possible new missions for the Naval Reserve were recently submitted to Congress:

- Creating important roles for Naval Reserve responsibility in Maritime Coastal Defense and Caribbean Sea Lines of Communications protection.
- Increasing the reserve role in the seagoing and airborne mine countermeasures mission.
- Transferring to the reserve additional amphibious capability including landing craft air cushion.
- Executing reserve augment plans for the Navy's hospital ships.
- Establishing a new reserve SAU for the Navy's Carrier Onboard Delivery squadrons.
- Establishing a new land-based aerial mission which will be assigned to the Naval air reserve pending approval as a valid operational requirement and funding.

Dr. Alan Petty, Charles Weller, Mike Brezenski and Cmdr. James Babb at the safety console in NASA's weightless training facility.

Horizontal integration: working reservists at HS-10

Story by Lt. Jill Hawkins
Photos by PH1 Harold J. Gerwien

"We will continue to seize on . . . opportunities to ensure that the Naval Reserve will be a fully combat ready element of the Total Force."

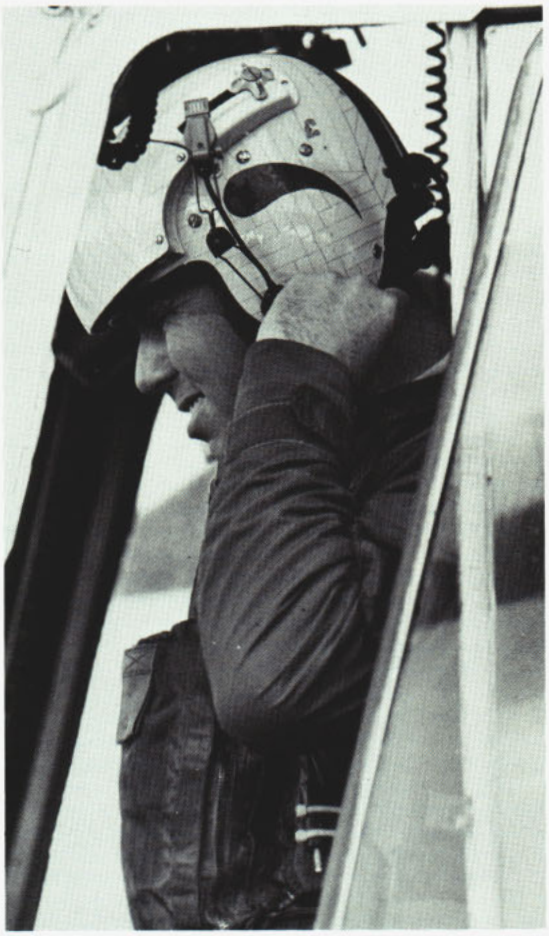
—Secretary of the Navy
John F. Lehman Jr.

Historically, naval reservists trained and drilled with outdated equipment no longer used in the regular Navy. This resulted in a reserve force unable to mobilize effectively when needed. The problem was first addressed by Secretary of the Navy John F. Lehman Jr. in 1982 when he announced a drive to update the Naval Reserve. He termed the update "Horizontal Integration" meaning the assignment of the same types of equipment to active and reserve forces.

As a result, the aviation community developed squadron augmentation units. The SAU program provides ground, simulator and flight training for reserve air crews and maintenance training for reserve enlisted people. The program's goal is to get aviation reservists at their maximum level of expertise so they can augment fleet squadrons during mobilization.

Augmentation units are assigned to the fleet replacement squadrons of each aircraft community, and Selected Reserve air and ground crews work and train at their respective FRS.

Is this "Horizontal Integration" working? Reserve Helicopter Anti-Submarine Squadron 0246, based at Naval Air Station North Island, San Diego, has become



Opposite page: AXAN Tom Ellis, plane captain, guides an SH-3 at HS-10's flight line. Above: Cmdr. Tolly Swallow, (left) and Lt.Cmdr. Jack Kirwan head for the flight line and Kirwan adjusts his helmet.

a fully integrated component of its FRS, Helicopter Anti-Submarine Squadron 10.

Commander, Naval Air Reserve has assigned one active duty reserve officer, Lt.Cmdr. Jack Kirwan, and 15 active duty reserve enlisted people to HS 10. These TARs provide training, continuity of effort and administration to Selected Reservists who drill on the weekends.

Kirwan is also the reserve program officer supporting HS 0246. In this job he coordinates the activities of the Selected Reservists while filling a Navy active duty billet as a pilot instructor at HS 10. "Lt.Cmdr. Kirwan and his 15 TAR personnel make a positive contribution to the mission capabilities and the morale of HS 10, in addition to the professional expertise they provide HS 0246," said Capt. Scott Walker, HS 10 commanding officer.

The commanding officer of HS 0246, Cmdr. Tolly Swallow, is a Selected Reservist who in a civilian job works on the F-14 program in Los Angeles. When asked how he viewed the "Total Navy" concept, Swallow said:

"The union of HS 10 with HS 0246 is a symbiotic relationship between two units. We both gain from and share each other's assets as we continue in our professional growth. It has been a positive opportunity for both sides of the Navy to know each other and work together."

HS 10's maintenance officer, Cmdr. King Deutsch, a 30-year Navy veteran, echoed that attitude. "The integration of HS 0246 into HS 10 is advantageous to both units. The Selected Reservists have the opportunity to work and train on current fleet aircraft. My maintenance personnel are able to learn the techniques and skills of their ratings from the experienced TARs who are here on a full time active duty basis."

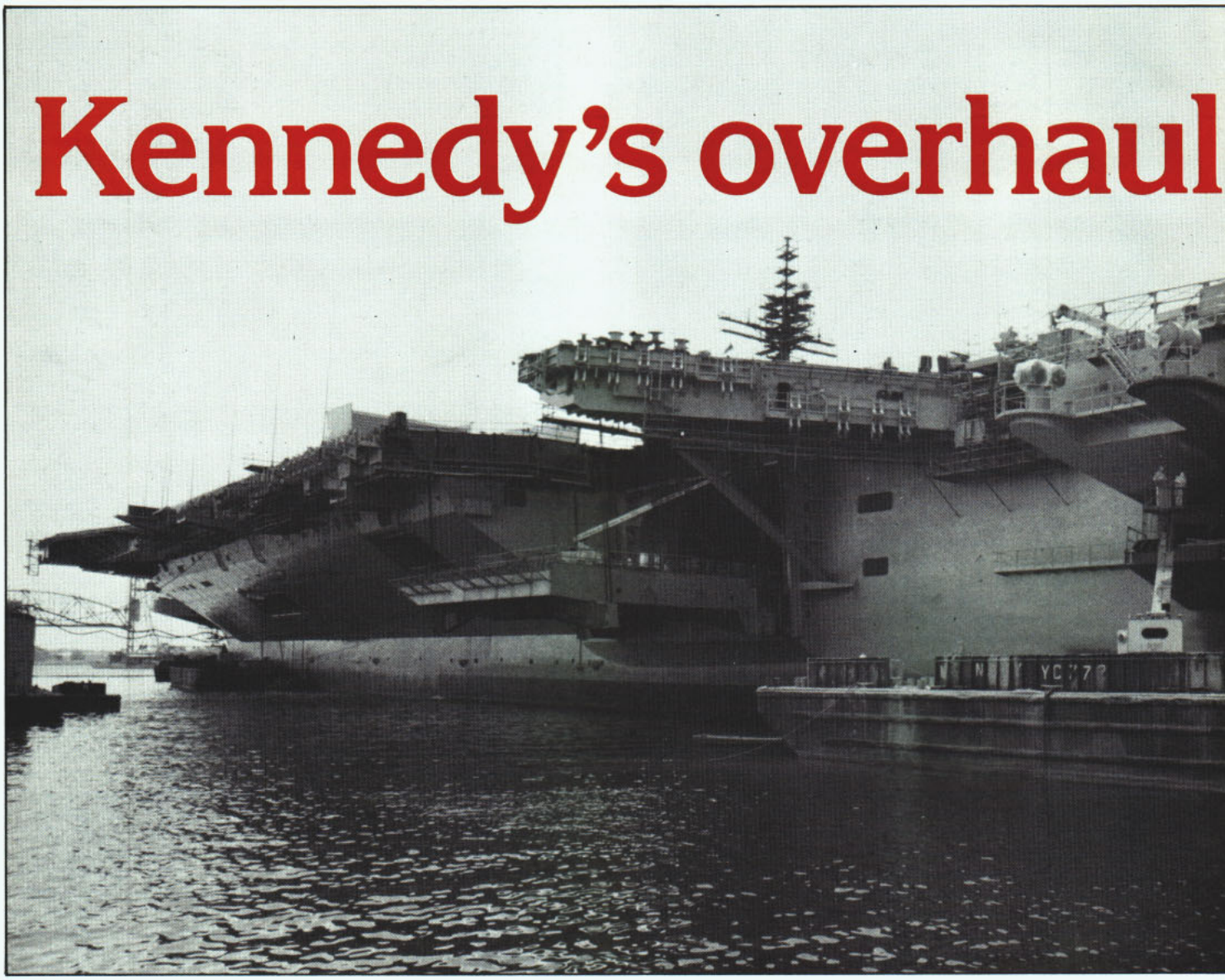
Each reserve drill weekend, HS 10 provides 10 to 20 regular Navy people from their duty section to support reserve training.

Like their active duty counterparts, many reservists make sacrifices for the Navy. Selected Reservists spend five days at their civilian jobs then travel to the unit's drill site one weekend a month. They then drill at an accelerated pace over the weekend to return to their jobs for another week before having a day off.

The story of HS 0246 is one of horizontal integration at its best. Reservists train with fleet aircraft in a real-life environment. The active Navy benefits from the expertise of veteran reservists and from having trained reservists ready to be employed immediately upon mobilization. □

Hawkins is attached to the HS 10 public affairs office; Gerwien is assigned to FltAVComPac, San Diego.

Kennedy's overhaul



Story by Lt.j.g. Mike Wert
Photos by PH1 Don Little

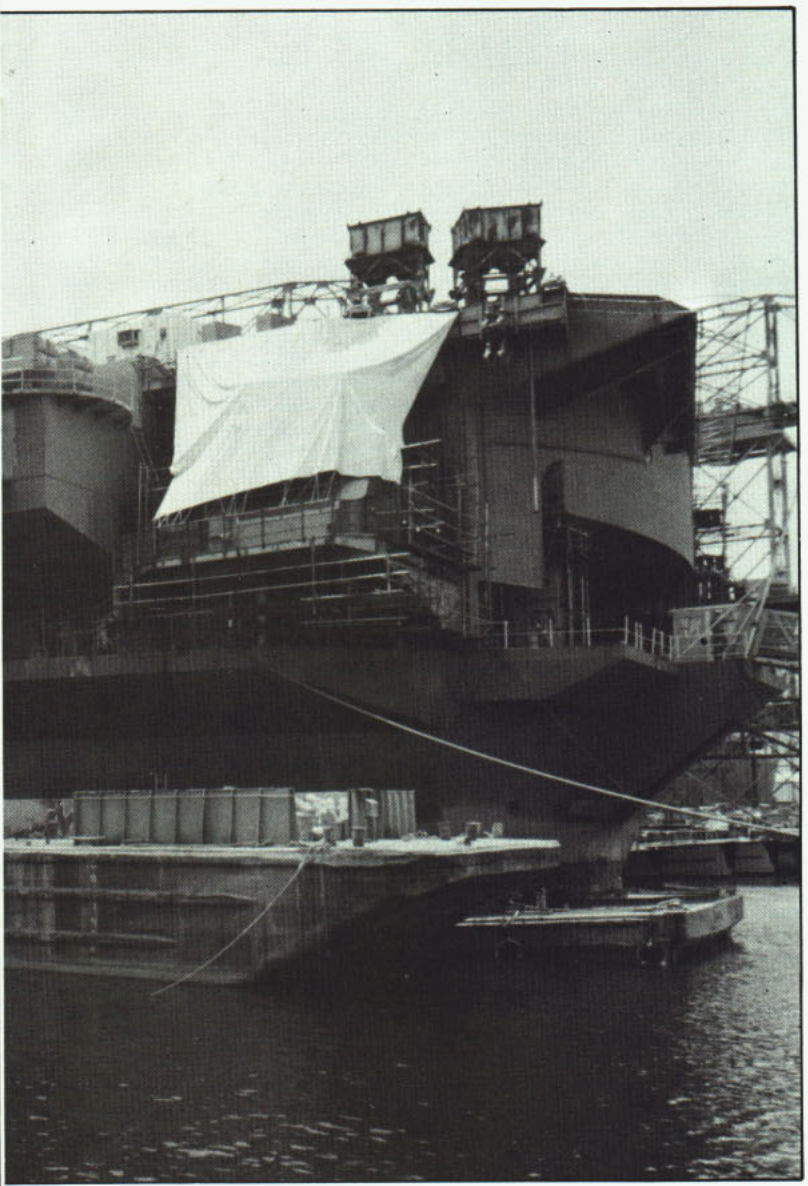
USS *John F. Kennedy* (CV 67) entered Norfolk Naval Shipyard Portsmouth, Va., in September 1984 to begin a year-long overhaul, following its deployment to the eastern Mediterranean to support the Peace Keeping Forces in Beirut.

The $65 million overhaul saw three *Phalanx* close-in weapons support systems installed with a low profile design for easy maintenance, complete removal of two weapons elevators and the extension of two more, and catapult systems overhauled and treated for corrosion prevention while being refitted for flush-gear nose deck launch.

Both sides of the super-carrier, from flight deck to water line, were taken to bare metal. Under Lt.j.g. Ed Porter, ship's force habitability officer, a crew of 104 implemented "Project 2000." In less than 12 months the crew replaced 1,269 berths. Each space was taken down to bare metal, primed, painted and retiled.

"There was a real dedication to reaching the highest quality of life on the part of everyone," Porter said. "Contractors, who do this kind of thing for their living, have said time and time again that it is the most outstanding job they've ever seen by a ship's force."

Kennedy's reserve contingent from South Weymouth, Mass., contributed time

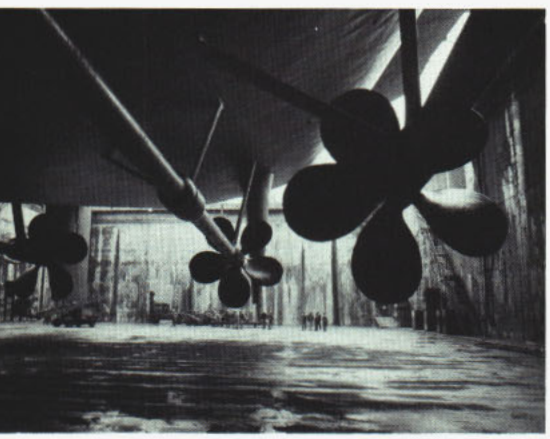


All hands turned to during John F. Kennedy's overhaul, including RM3 James L. Donald and RM3 George M. Jones (below), who worked on the ship's radar rigging, and the deck department paint-slingers (below).

and muscle, and in many cases, added expertise gained from their civilian jobs.

"There was a guy who is a welder in civilian life," Aviation Electronics Technician 1st Class Daryl Kauffman said. "That guy was just great. The knowledge he contributed sped things up tremendously."

Ex-USNS *General William O. Darby*, once an Army troop carrier, was placed alongside *Kennedy* for berthing, messing and recreation during the overhaul. Improvements were also made in *Darby*—the installation of a ship-wide fire detection system, two completely equipped damage control lockers, new copper pipes,



and an upgraded laundry system.

Once the basics were provided for, *John F. Kennedy*'s crew created a crew's lounge aboard *Darby*. A combined lounge/game room got a new coat of paint, carpet and video games, and a former cargo hold was equipped with a pool table, card tables and bumper pool tables.

Kennedy obtained a bus, painted it and emblazoned its side with the legend "Golden Anchor Special II," named for the ship's current retention award. Despite the age of the bus and the daily maintenance required to keep it running, the "Golden Anchor Special II" made daily shuttles from the shipyard to metropolitan areas throughout greater Tidewater.

In June, *John F. Kennedy* received the *Phoenix* trophy for outstanding performance in weapons systems and equipment maintenance within the Department of Defense. *John F. Kennedy*, selected from 21 service wide military units, is the first ship to win the award.

"The competition for the Phoenix trophy was keen, but in *Kennedy* we have chosen a truly worthy recipient. *Kennedy*'s record, achieved under the most arduous and demanding conditions, reflects great credit upon the crew of this exceptional ship," said Deputy Secretary of Defense William H. Taft IV, who presented the award. □

Wert and Little are assigned to USS John F. Kennedy *(CV 67).*

John F. Kennedy's rehabilitation had everyone involved including (clockwise from left) IS1 Wayne Craigmiles pop riveting, AN David J. Vanderwall needle-gunning, RMSA Kenneth P. Curtin and RM3 Robert E. Dutcher painting, ISSN Matthew W. Whited and ATAN Victor C. Laurent standing fire watches, and SN Greg Strong mixing paint. The Phoenix Award ceremony (right): Assistant Secretary of Defense L.J. Korb, Under Secretary of the Navy J.F. Goodrich, Deputy Secretary of Defense W.H. Taft IV, who presented the award, Capt. W.R. McGowen, commanding officer, HT3 William Corless, and EM1 Lee Norton.

Paths to a commission

The Navy's BOOST program is just one of many ways enlisted people can become officers.

For some Navy enlisted people, getting a college education is only a dream; becoming a naval officer might seem even more unrealistic.

The Navy has a program called BOOST to help make those dreams come true.

BOOST is exactly what it sounds like. It provides an extra educational opportunity for enlisted people who haven't been fortunate enough to get good high school educations, but who have the drive to better themselves and who are prepared to work hard toward getting commissions, the ultimate goal of the BOOST program.

BOOST, which stands for Broadened Opportunity for Officer Selection and Training, is a one-year program held at the Service Schools Command, Naval Training Center, San Diego, Calif. The BOOST curriculum concentrates on mathematics, physical and social sciences, and the communications skills of reading, writing, listening and speaking. Courses in educational and personal counseling, study skills development and time management round out the program.

BOOST students spend a year preparing to compete for entrance into the U.S. Naval Academy in Annapolis, Md., or into a Navy ROTC program at one of 64 participating civilian universities throughout the country.

At BOOST, everything revolves around academics. It's not unusual for BOOST students to spend three to five hours a night reading and studying, in addition to putting in seven hours a day attending classes.

"It's stringent," said Avionics Technician 2nd Class Timothy Thate, one of the top members in this year's BOOST program. Thate will continue his education through a Navy ROTC scholarship at George Washington University in Washington, D.C., regarded by many as one of the best universities in the country.

According to Thate, most of the hours in his day at BOOST—from before muster at 6:30 a.m. until he hits the rack at about 11 p.m.—are taken up by classes, homework and studying. About an hour is set aside each day for physical training or general military training. Other than that and eating and sleeping, Thate doesn't "have much time to do anything else."

Emphasis on good study habits and doing well in the program get a high priority at BOOST. How well a student does on the SAT will have a direct bearing on whether that student earns an appointment to the academy, gets a Navy ROTC scholarship, or remains enlisted and returns to the fleet.

To make it through the program, BOOST students have to get a minimum SAT score of 950—that's 53 points above the national average. Airman Kimberly Stogsdill had a 1040 SAT score before going through BOOST this year. "It's what you call qualifying, but not competitive," she said. Her score at the end of the program was 1130. When she enters the naval academy this summer, she will be one of a handful of women BOOST students who have earned an appointment to the academy.

Thate's score also rose considerably since he first took the SAT in high school. He attributed his rise in the SAT scores to the BOOST program.

"The opportunity is there," he said, "All you have to do is go for it. That's basically what BOOST is, an excellent opportunity."

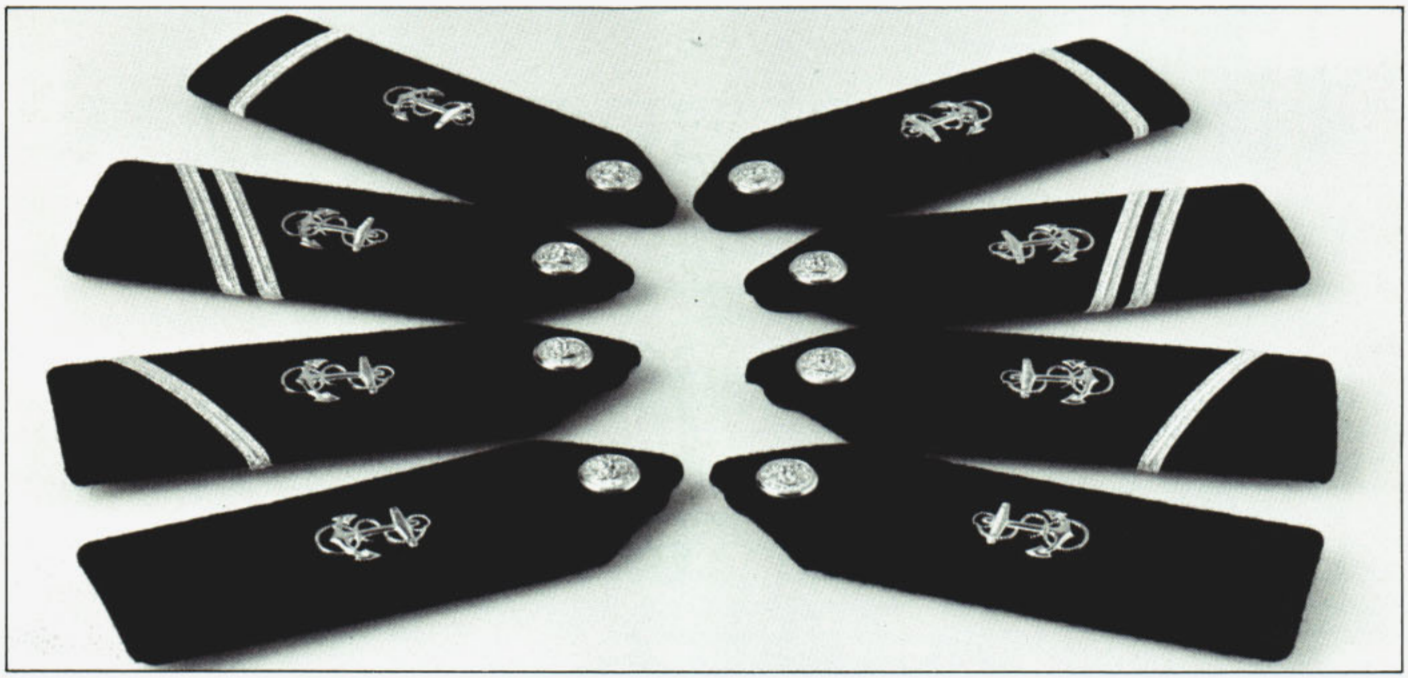


Photo by Phil Hoffman

Thate, who said he was "a lazy student in high school," didn't get into the program until he had been in the Navy for a few years. He entered the Navy under the advanced electronics program, went right into school for 18 months and made second class within 19 months. He's been in for almost four years.

"The Navy has been good to me, real good to me, but I thought, 'Why wear silver when you can wear gold?'"

He applied and was accepted into the BOOST program, but said that is only the first step to putting on Navy gold.

"If you don't want to be here, you're not going to make it. I've seen a lot of good people; they just don't want to be here, and they're gone. I think it's 90 percent you and 10 percent BOOST. BOOST gives you the means to learn."

Because BOOST is tough, the dropout rate is high.

"Three hundred and three Navy people started the class this year; 188 are still left," said Senior Chief Signalman Edward Hahn, command senior chief at BOOST. "Attrition fluctuates. Last year about 36 percent dropped out. This year it's about 45 percent.

"Whatever attrition rate we experience every year, 99 percent of that is because of academics. But I'm really quite proud of our students, no matter whether they make it through or not. They give it their best shot, and that's all we ask. When they walk in the door, we're really looking at the cream of the crop. If they were bad sailors, they would never make it here in the first place."

It's tough getting through BOOST because it's tough getting into the academy or earning a Navy ROTC scholarship. Last year there were 13,000 applications for the academy. Of the 13,000, only 1,300 were accepted—a 10 percent acceptance rate. In this year's BOOST class, 40 students applied to the academy; 22 were accepted—more than a 50 percent acceptance rate. According to Hahn, that's impressive.

Several of this year's BOOST students agreed that the biggest factor for getting into the program and being accepted into the academy or into a Navy ROTC program is motivation and a positive attitude.

"Never give up," said Seaman Francisco Gutierrez, BOOST's top graduate this year and a U.S. Naval Academy appointee. "Be highly motivated. Find every avenue possible to understand what you're doing and get the job done. You've got to set your goals."

BOOST is the number one program for minority commissions in the fleet and is primarily an affirmative action/equal opportunity program (65 to 70 percent of all BOOST students are minorities). But Hahn stressed that "you don't have to be in a minority or ethnic group to get in here, that's for sure. Your record speaks for itself, no matter what your race, color or creed."

For specific guidance on the program's requirement, see OpNavNote 1500, which is issued annually each May, or the Naval Military Personnel Manual, section 1020360.

Persevere. BOOST can make a dream become reality. □

—Story by JO1 Gary Hopkins

VP 46

'The oldest and the best'

Story and photos by
AIC Rebecca Guerrero, USAF

Snow, ice and wind enveloped the airfield. In the darkness, a P-3C *Orion* sat on the tarmac near the Patrol Squadron 46 hangar. Bundled against the cold, two aircrewmen fought the elements to check the aircraft's systems before they attended their crew's 6 a.m. preflight briefing.

"A lot of our job is trouble-shooting," said Aviation Electronics Technician 2nd Class Greg Knowles, inflight technician. "I run actual tests on all the avionics inside the aircraft to make sure everything's working the way it should."

Opposite page: AD2 Keith Gregg sweeps snow from the Orion's wing flaps, helping to prepare it for flight. Left: AMS2 Joel Herrera and AMS2 Nelson Rosario service the plane. Below: Lt. James Baker holds a flight briefing.

It was after dawn when the *Orion* skated down the runway at Naval Air Station Misawa, Japan, and pierced the air. The pilot aimed the plane's nose upward through heavy air turbulance that tossed the 76,000-pound *Orion* like a small boat in high seas.

Inside the plane, a lieutenant's voice fought against the engines' roar:

"Fire! Fire! Fire!"

The men scrambled into anti-exposure suits and waited for the abandon order.

The order never came. The simulated fire was a test, planned as training for the VP 46 crew that was flying together for the first time. The crew is one of 12, and its plane is one of nine flown by the squadron.

"Before any new crew can fly operational missions, the people must prove themselves capable of performing as a team," said Lt. John Sullivan, one of VP 46's two tactical coordinator instructors. "They have to perform a variety of functions under various conditions."

VP 46

"Training is readiness," Aviation Anti-submarine Warfare Operator 2nd Class Tom Hines said. "What we do on every flight is the real thing, whether the mission of the day involves an adversary or not."

During the training flight, the crew practiced locating, tracking and launching torpedoes against an enemy submarine.

"I think a lot of people are under the impression that we just go out and look for submarines," said pilot Lt. James Baker. "In fact, we're a weapons capable aircraft. Our primary mission is to deter the enemy from aggressive acts and to keep the sea lanes open to free passage."

Sometimes, the P3-C mission covers other situations, such as emergency medical evacuation and Sea/Air rescue operations. Recently, one VP 46 crew transported a newborn infant from an isolated Aleutian island to Elemendorf Air Force Base, Alaska. Another time, a different crew aided a disabled vessel at sea.

"An airliner once spotted a boat that was on fire, about 100 miles south of Bermuda," said Knowles. "We dropped a SAR kit and maintained visual contact with the vessel until the rescue helicopter arrived."

At Naval Air Station Moffett Field, Calif., where the squadron is based, it's not unusual for crew members to wake up there in the morning and find themselves in another part of the world that evening. Unlike many mobile units, when the squadron deploys, all members are deployed—sometimes at a moment's notice. "We bring our commander, our own doctor and even our own cooks," Sullivan said. "You live with these people, you eat with them, and you have to know where each other is all the time, especially when you're on the ready."

With a squadron of 75 officers and 276 enlisted people, there are lots of jobs to be done besides flying. "If you're not flying, you've got a ground job to do or you're doing the job of someone who's detached elsewhere," pilot Lt. j.g. Clark Kluwe said.

"The squadron has to function, no matter what," Baker added.

VP 46's hard work and dedication to teamwork has earned it the title of "the oldest and the best," according to Lt. Joe Sparks, squadron historian.

It was commissioned in September 1931 at Coco Solo, Panama. Two years later, the squadron exchanged the PM-2 aircraft for the P2Y-1, and was designated VP 5S. It was there that it established its first record.

"On a return flight from Norfolk to Coco Solo, a distance of 1,788 miles, six aircraft flying a continuous 25 hours and 26 minutes, recorded the longest non-stop seaplane formation flight to date," Sparks said.

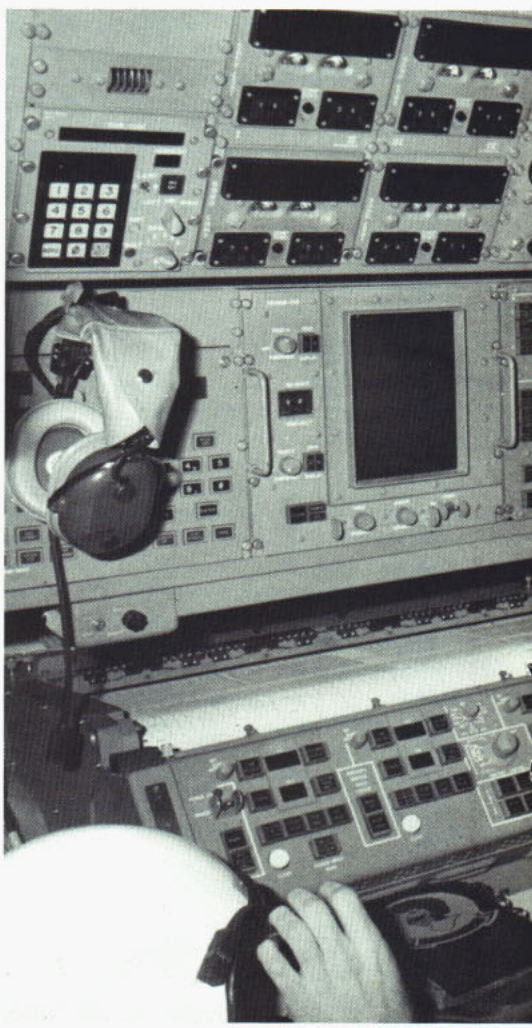
During World War II, the squadron operated in the Caribbean where it located and sunk three German submarines in one two-week period. This episode earned the squadron the Navy Unit Commendation.

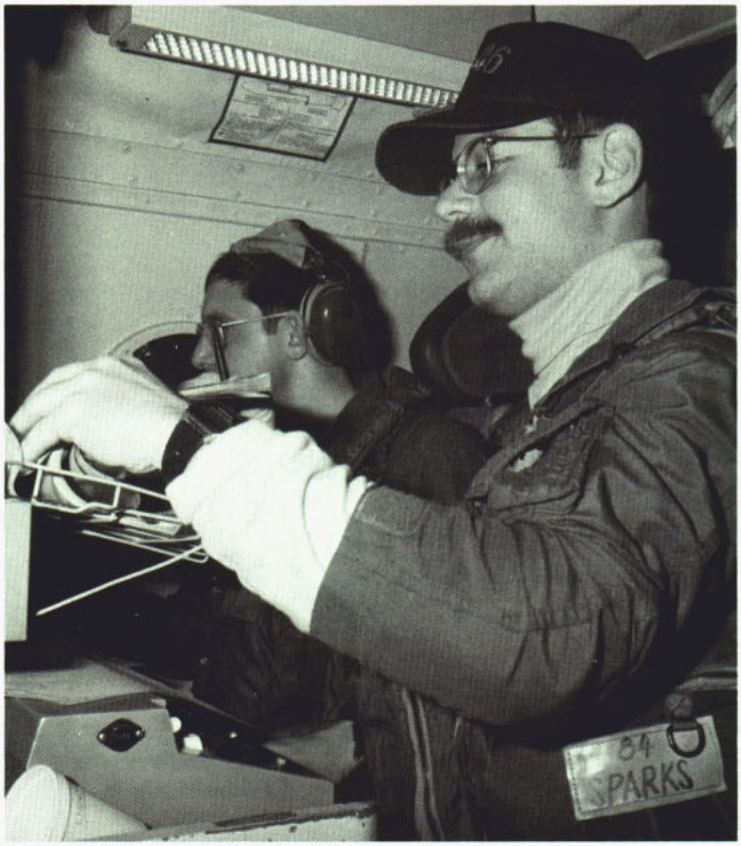
In 1963, soon after the squadron moved from Coco Solo to Moffett Field, it became the first in the Pacific Fleet to be equipped with the P3-A *Orion*. It also was the first squadron to deploy on a permanent basis to Diego Garcia, an island in the Indian Ocean.

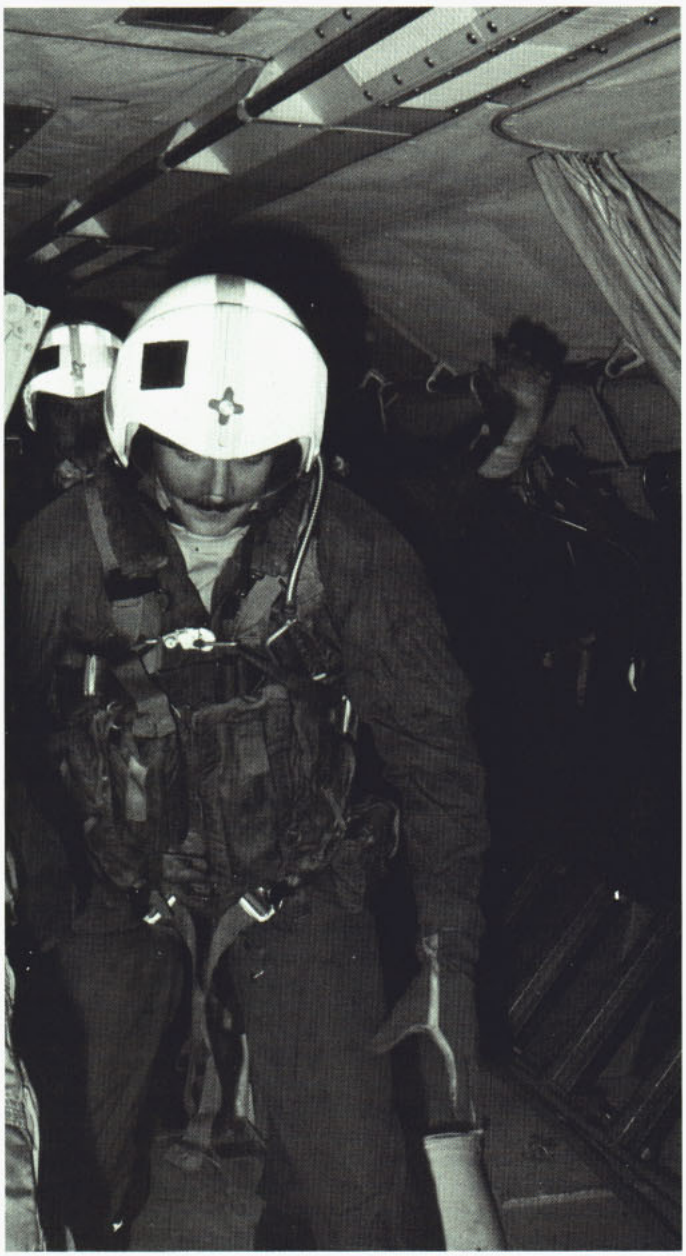
The Grey Knights have earned the Captain Arnold Jay Isabel Anti-Submarine Warfare Award three times, and earlier this year, it reached 165,000 hours and 21 years of consecutive safe flying.

As long as there are submarines and ships, and as long as there is a mission to be accomplished, VP 46 will be there, defending its title as "the oldest and the best." □

Guerrero is assigned to Misawa Air Base.







Everything in place and ready to go. Left: SN Ronald Singleton and AW2 Tom Hines. Top left: AD2 Keith Gregg. Top center: Lt. Joe Sparks and Lt.j.g. Stewart Schwartz. Above: AT2 Gregg Knowles prepares to bail out during a fire drill.

Tarawa's firefighting team

Story and photos by JO1 Dan Guiam

A loud siren wail is heard across the flight deck of the 7th Fleet amphibious ship USS *Tarawa* (LHA 1).

In the wink of an eye, a firefighting team rushes to the scene where a helicopter "burns." Two helmeted sailors, looking like silver clad spacemen, battle the "flames" while others take positions with backup equipment.

Except for the lack of flames, the scenario could be mistaken for a real flight deck fire; this time it was a drill that tested the response of the crash and salvage team, the "Eagle of the Seas" aircraft firefighters.

"Like civilian firefighters, we're on call 24 hours a day," said Aviation Boatswain's Mate 1st Class Richard Stacy, the team leader. "Our job, however, is usually limited to aircraft fires on the flight deck and in the hangar bay. Our most important job is to save air crew lives."

The size and diversity of the San Diego based, 40,000-ton *Tarawa* makes the crash and salvage team's mission challenging. Watching the ship launch and recover helicopters and AV-8C *Harrier* jets automatically becomes a preoccupation for everyone on the team. Each team member must be constantly vigilant for any mishap that could trigger fires or endanger the air crews or aircraft.

Team members stay alert during all flight operations, often working from early morning to late night.

The recently concluded Team Spirit '85

Crash and salvage team members examine fire hoses.

Left: Tarawa's "fire truck" stands by on the flight deck as aircraft land. Below: Firefighters respond during a disaster drill.

exercise put the team through some hectic paces as the ship launched *Harriers* and helicopters. The exercise was large scale and tested the capabilities of United States and Republic of Korea military members over a broad spectrum of warfare areas aimed at defending the Korean peninsula.

Helicopters were mobilized for the amphibious landing exercise during Team Spirit '85. They carried Marines to the landing site, which along with other amphibious evolutions, highlighted the joint/combined military maneuver. The crash and salvage team stood by the aircraft for the Marines' complete safety.

"Every time a pilot starts his engine to fly or stops it after he lands," said Aviation Boatswain's Mate 3rd Class Mike Salazar, "we have to be on the scene in case of a fire. A crash and subsequent fire can easily become reality, especially in a high-tempo situation."

Long flight operations could also mean box lunches for the 12 men of the crash and salvage team. The risky business of flying requires the team to be present on the flight deck—so while the rest of the crew enjoys a hot meal, the team might have to be satisfied with cold sandwiches.

"Food is not the issue here," said Airman Alfred Lujan Jr. "Lives and millions of dollars worth of equipment are at stake, making our job critical and challenging."

The role the team plays in flight deck operations puts pressure on the air department head to select the best people for the job. Outstanding performance, occupational knowledge and motivation are the criteria which qualify a man for a spot on the team.

"The team members are highly spirited and take the job seriously," said Aviation Boatswain's Mate 3rd Class Roy Sanchez. "If you don't take pride in what you do, then you don't have any business on our team."

Team members are tested in emergency procedures as often as needed to ensure maximum job efficiency. The rescuemen, for example, have to know a *Harrier's* cockpit as well as the pilot. In an emergency, the rescueman has to turn the jet's fuel switches off, cut electrical power and shut off the oxygen supply in the pilot's mask before rescue can be attempted.

Men in silver "hotsuits" manning the twin agent unit are first on the scene to control the fire and to save the air crew's lives. Then the team goes to work on the damaged aircraft. The TAU discharges carbon dioxide and "PKP" to extinguish aircraft fires.

Operators of cranes, forklifts and tractors and men carrying portable fire extinguishers round out the team.

"It may seem like mass confusion to the uninitiated," said Sanchez, "but these people know their jobs."

Tarawa has an excellent safety record, according to Lt. Cmdr. Robert Owsley, the ship's safety department head.

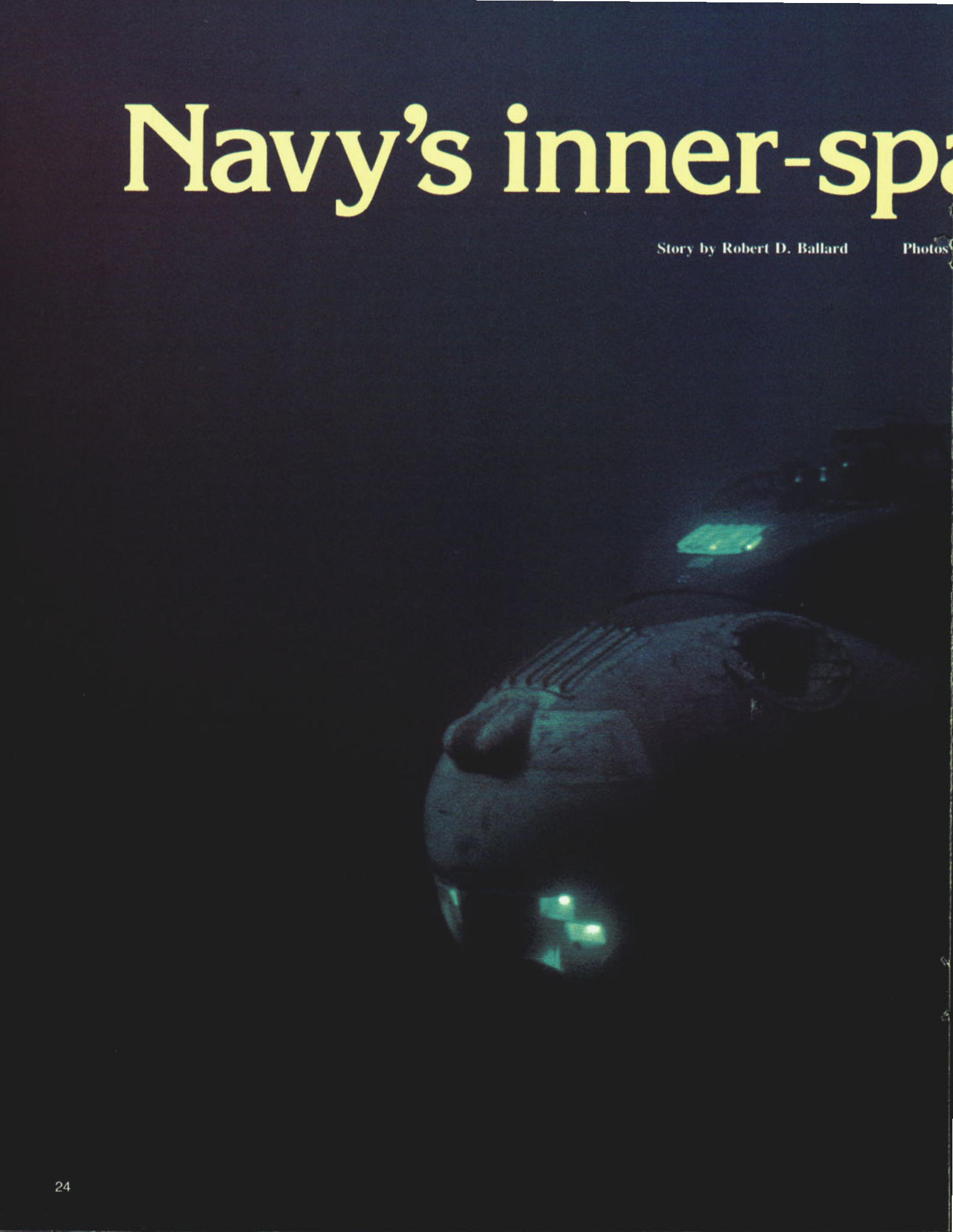
"But that doesn't leave us jobless," said Stacy. "We never know when an accident may happen. We continually sharpen our skills, maintain our equipment and conduct periodic training, just in case."

Every day at sea, team members check to make sure their equipment is functioning properly. Fire extinguisher bottles are filled. Trucks, cranes and forklifts are readied, and most importantly, each person develops a preparedness . . . ready for the worst. □

Guiam is assigned to the 7th Fleet Public Affairs Rep., Subic Bay, R.P.

Navy's inner-spa

Story by Robert D. Ballard Photos

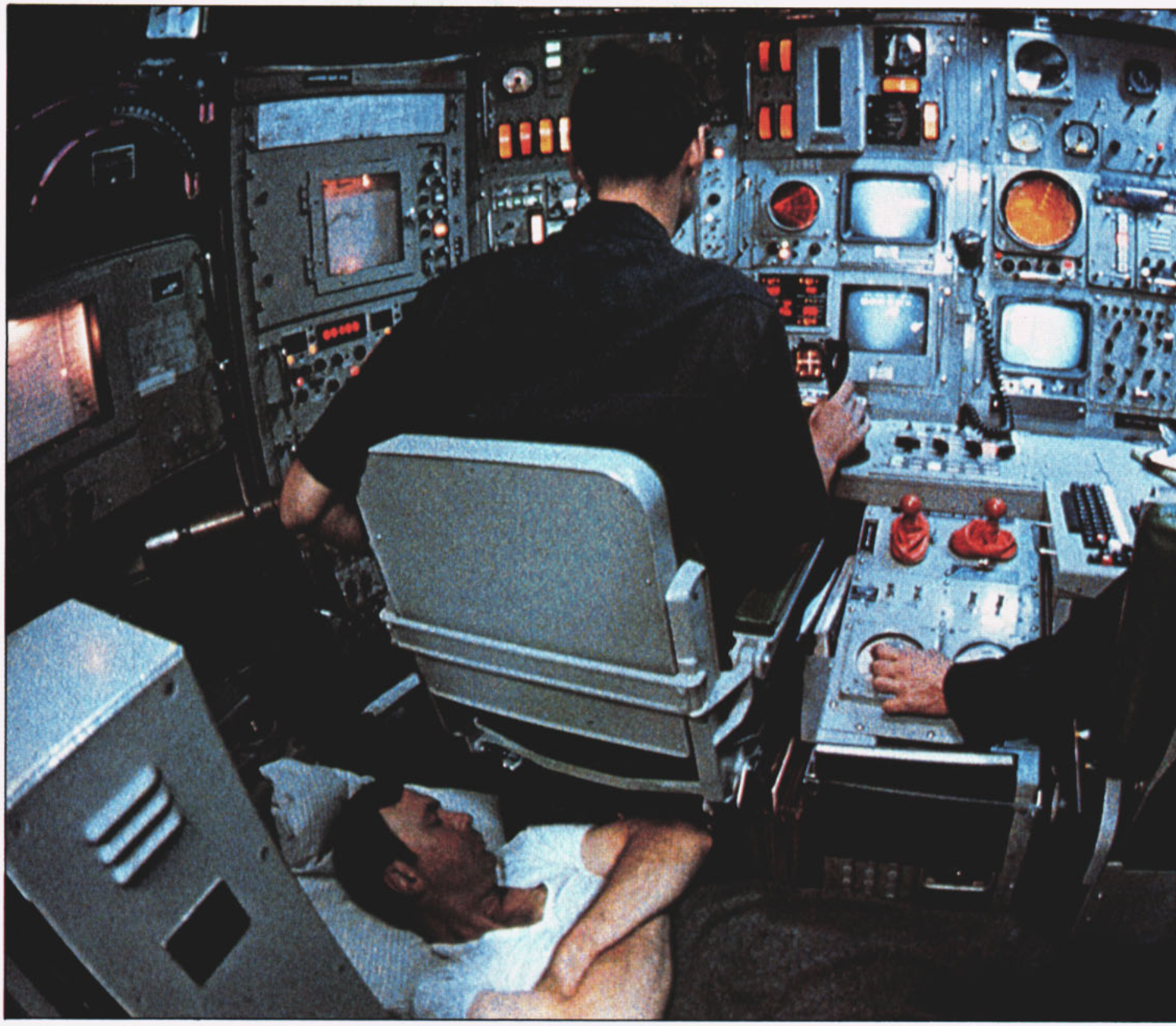


ace shuttle NR-1

by Emory Kristof

Searching for active geothermal vents, civilian scientists and the 10-man crew of the nuclear-powered research submarine NR-1 probed the Reykjanes Ridge off Iceland for 20 days.

Inner-space shuttle



Cmdr. Giambastani sleeps behind NR-1's watch officer's station.

I had the chance recently to explore the seabed off Iceland in the U.S. Navy's nuclear-powered research submarine NR-1. With the boat's 10-man crew, I spent 20 days submerged—an impossible feat for conventional underwater craft that must rely on short-lived batteries for power.

The U.S. Navy's submarine base at Holy Loch, Scotland, serves as home port for NR-1 on missions in the eastern Atlantic. The base, consisting of a submarine tender and a huge floating dry dock, also services the Navy's missile and fast attack submarines between routine sea patrols.

I joined NR-1 at Holy Loch, where it was towed from port by its support ship, USS *Sunbird* (ASR 15). Designed as a research tool rather than a warship, NR-1 has a top speed of only four knots, making it necessary to tow it to distant research sites. Orange paint on the superstructure gives the vessel greater visibility at sea.

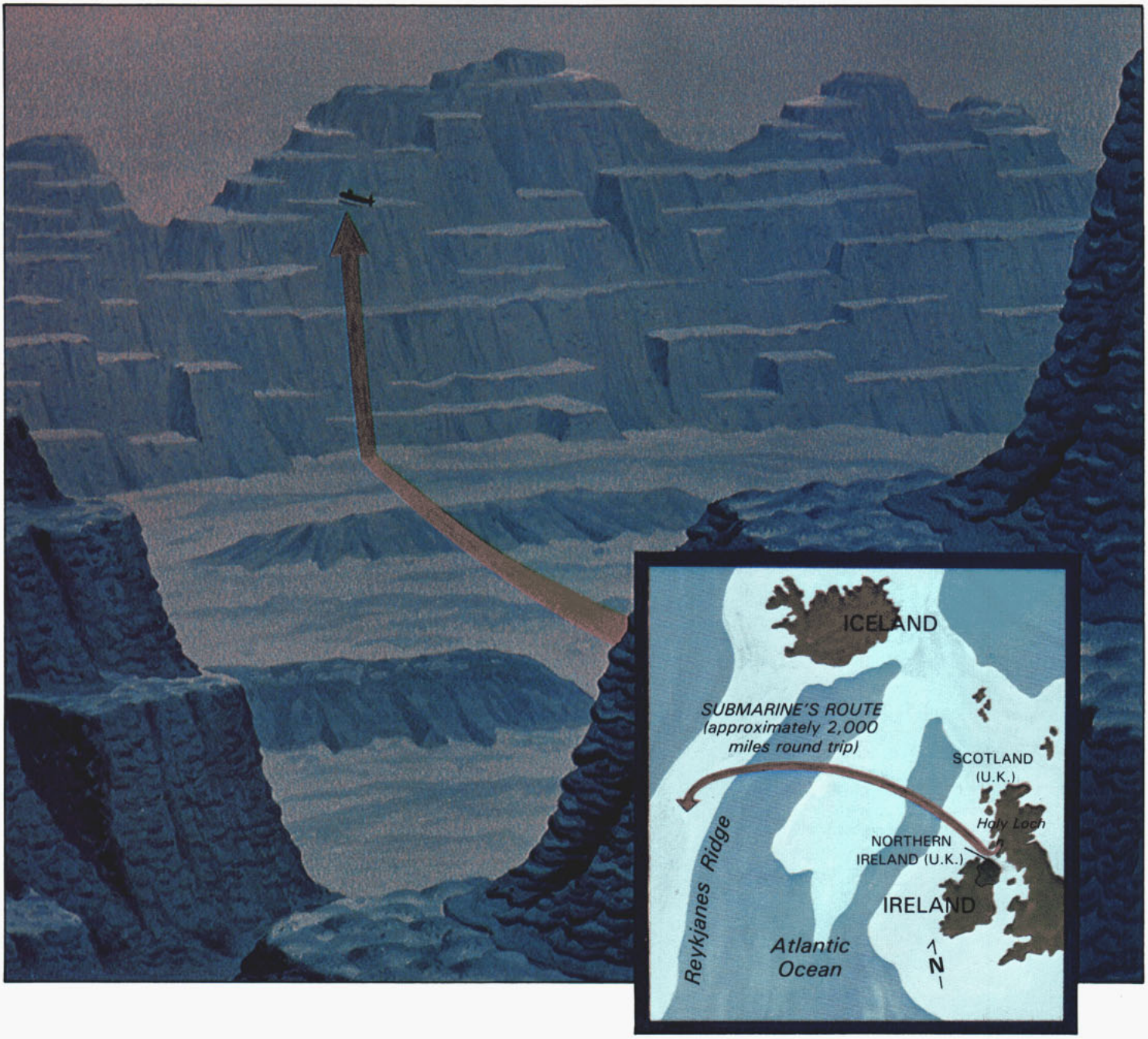
Cmdr. Giambastani runs in place in the boat's control room.

Once clear of land, we headed toward Iceland. Probing the deep, NR-1 hovered beside an escarpment of the Reykjanes Ridge as a deepwater shark swam into the glare of the vessel's powerful floodlights. The escarpment of mound-like pillow lava is the solidified front of an underwater volcanic flow.

The Reykjanes Ridge forms a northern portion of the Mid-Atlantic Ridge, where two enormous segments of the earth's crust are being wrenched apart about half an inch a year. NR-1 cruised at a depth of 1,800 feet along the terranced slopes of the Reykjanes Ridge. Robin Holcomb of the U.S. Geological Survey and I explored the great undersea mountain ranges for nearly two weeks, supplied with abundant power from the ship's nuclear reactor.

In addition to collecting scientific data, we proved that a nuclear submarine can maneuver indefinitely along an undersea

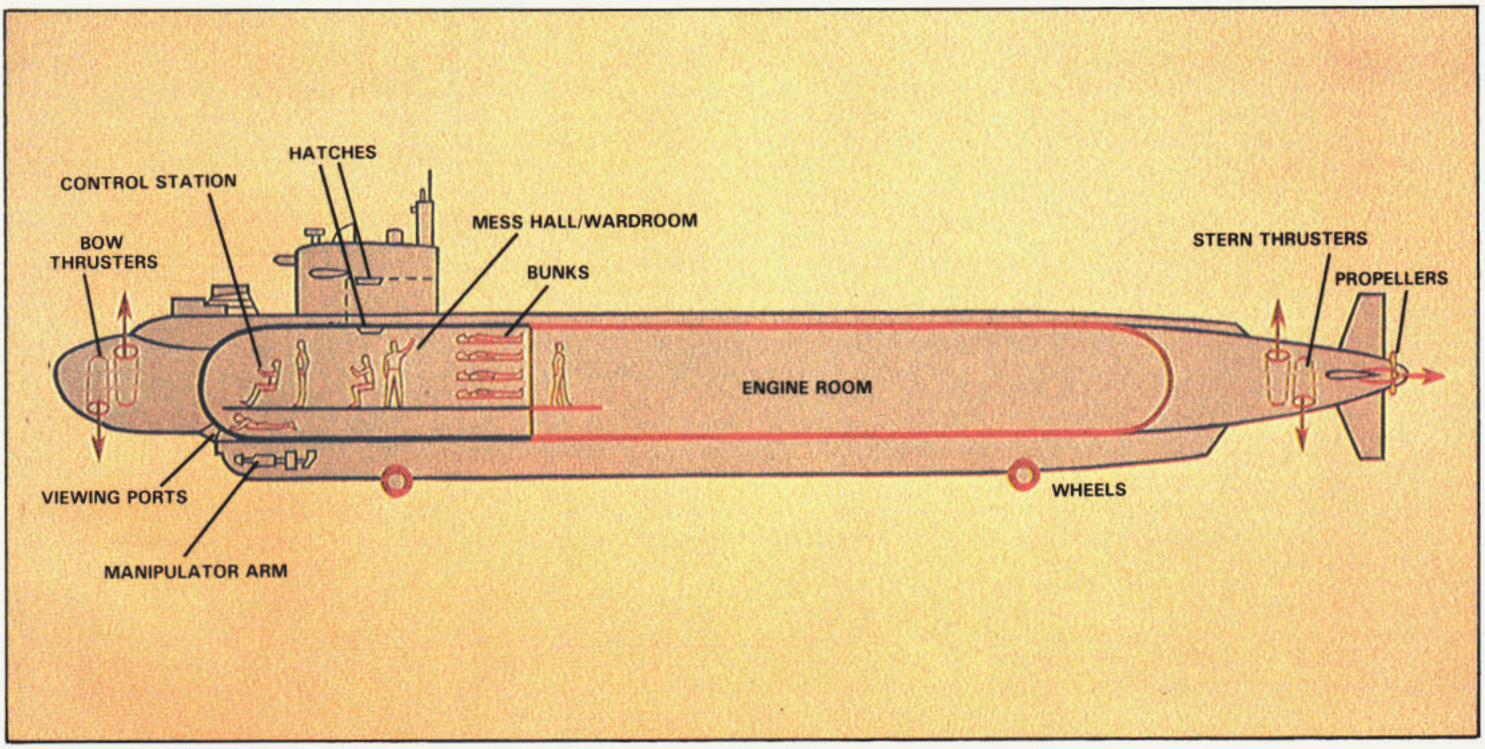
Inner-space shuttle



Artist's rendition of NR-1 at 1,800 feet along the Reykjanes Ridge's terrace slopes which form a northern portion of the Mid-Atlantic Ridge off Iceland (inset).

mountain range, as easily and effectively as a helicopter can through surface mountains. This is a new dimension in concepts of undersea science and warfare. NR-1 is remarkably similar to NASA's space shuttle with its dual military and civilian research capability, its ability to install and retrieve objects across great distances, and its sense of total isolation in a remote and hostile world.

On duty and off, shipboard routine prevailed, but in unusual circumstances. NR-1's crew occupied quarters so cramped that only half the men could sleep at any one time. To be available on short notice, Cmdr. Edmund Giambastiani, NR-1's commanding officer, slept on the deck behind the watch officers. Lt. Fred Litty controlled the submarine's movements by means of a joystick and sonar scopes; Lt.Cmdr. Charles Anderson handled navigation and communications. While at sea,



Drawings show NR-1 with its floodlights on (top) beside an escarpment of the Reykjanes Ridge and separation of the boat's compartments (above).

crewmen stood watches—six hours on and six off.

Every man aboard NR-1 must be able to perform the jobs of his fellow crew members, including control of the ship's nuclear reactor. All officers and crew must have served in the Navy's regular nuclear submarine fleet before assignment to the research sub. Despite hardships and severe crowding—average deck space per man is less than 10 square feet—NR-1's crew is an all-volunteer force, carefully screened and trained by the Navy's top schools. Temperament is a vital factor in selection; during my 20 days aboard I never heard a raised voice.

To keep fit, Giambastiani, 36, ran in place in the control room half an hour every day. He took command of NR-1 three years ago, the ship's sixth captain since it was launched in 1969.

Inner-space shuttle

The author shoots underwater scenes as an NR-1 crewman relays maneuver requests to the helm.

NR-1's viewing ports, like a gallery to the undersea world, fascinated me for hours above the Reykjanes Ridge. I used my camera often to record unusual geology or life forms; crewman Walter Reynolds relayed my requests for maneuvers to the helmsman. My goal was to see if active geothermal vents existed on the ridge, the results of volcanism such as created the island of Surtsey off Iceland in 1963.

I was led to this area by previous research, including that of geologist Bruce C. Heezen, who died here of a heart attack aboard NR-1 in 1977. Heezen's earlier work guided the National Geographic Society's map-paintings of the world's sea floors. The first, of the Indian Ocean, appeared in 1967.

Though I found no thermal vents, I saw remarkably rich deepsea life in the form of corals and mollusks at depths of nearly

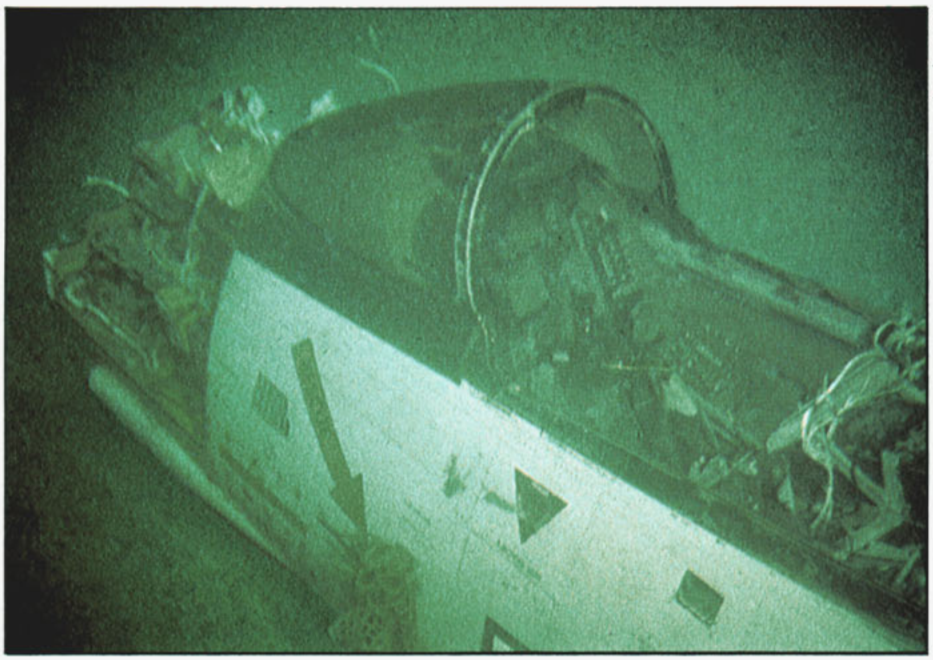


Photo by Capt. A.J. Holifield Jr.

Photo by Capt. A.J. Holifield Jr.

An F-14 Tomcat (top) and a Phoenix air-to-air missile (bottom) in 1,800 feet of water in 1976.

2,000 feet.

Another part of NR-1's versatility involved a *Phoenix* air-to-air missile and a Navy F-14 fighter in 1976. Both were lost from a U.S. aircraft carrier off Scotland. The plane's crew managed to eject to safety, but the plane and missile sank in 1,800 feet of water. After salvage ships pinpointed the plane's position, NR-1 was called in to attach lines for retrieval. It then searched for the highly secret missile, and after several days, brought the *Phoenix* to the surface. □

Ballard is with the Woods Hole Oceanographic Institution; Kristof is a National Geographic *staff photographer.*

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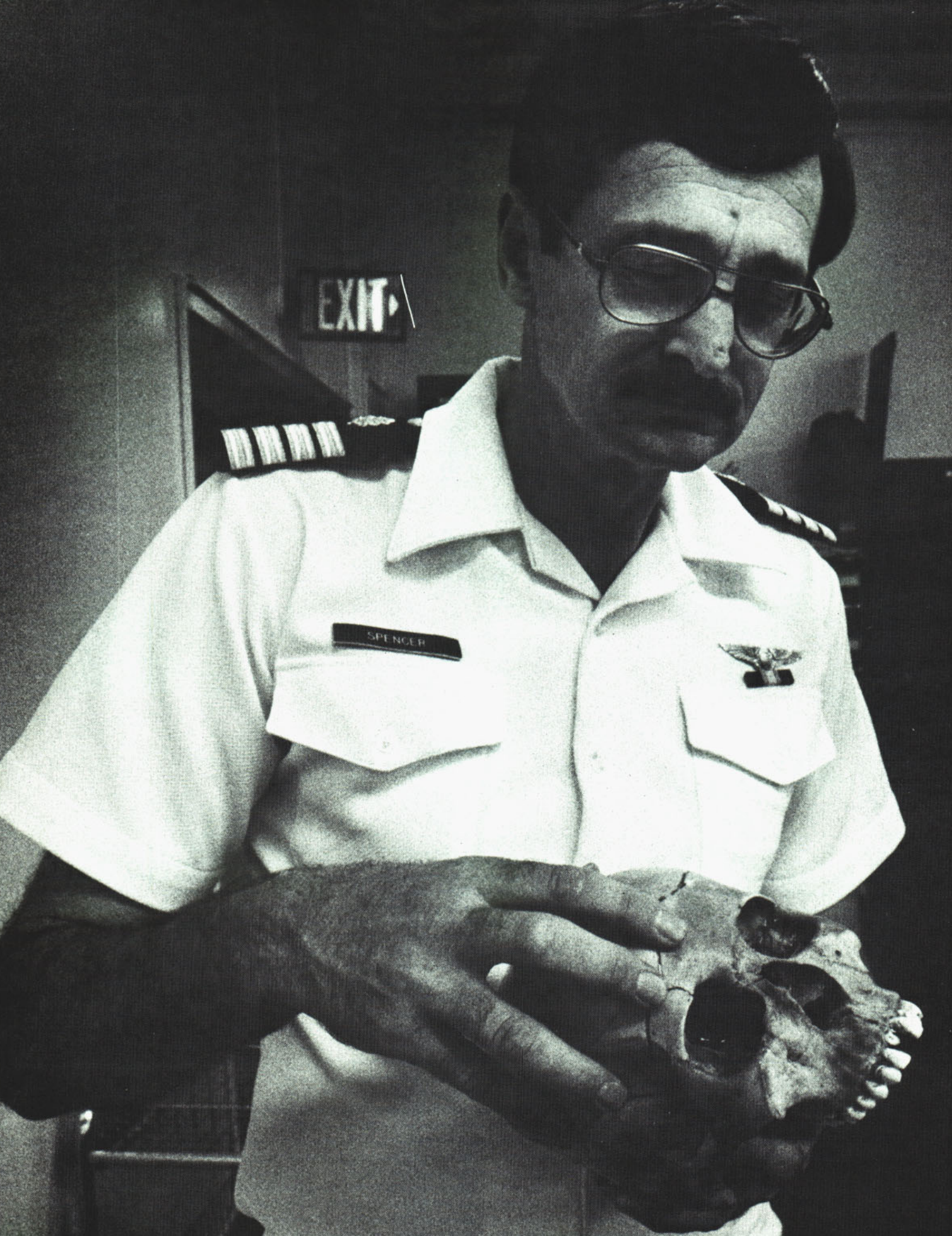

EXIT
SPENCER

Navy pathologist

Making the final diagnosis

Capt. Jerry D. Spencer, the Navy's leading forensic pathologist, flicks on his slide projector and takes you frame by color frame through one of his cases . . .

(click) . . . an Army sergeant with a bullet hole in his head sprawled in a pool of blood . . . (click) . . . blood-spattered paperwork on the desk where victim and a Specialist 4th class, accused of the crime, worked side by side . . . (click) . . . an overview of the room showing the nearness of the dead man's chair to a wall . . . (click) . . . the victim's blood-covered hands . . .

"The blood on the hands indicates the investigators didn't swab for gunpowder residue," Spencer says, pointing to the arch between his thumb and forefinger. "That's a key picture." (The specialist's hands tested positive for gunpowder residue, but that was to be expected—he is a machinegunner.)

(click) . . . the doctor's presentation continues. . . .

At first glance many of the slides appear insignificant, but Spencer's narrative quickly transforms them into vital pieces of an intricate puzzle. When the projector's eye winks for the last time, he puts them all together for you.

Spencer explains that the victim's chair was only 18 inches from the wall, and the bullet entered the side of the head nearest the wall. The specialist "would have had to squeeze between the victim and the wall, squat a little bit and hold the gun like this," he says, pretending to use both hands to hold a gun waist-high with the barrel pointing up at an angle.

A very awkward position and an unlikely scenario.

Then, taking his imaginary gun and holding it against his temple, he shows you how it probably happened. You no longer doubt the accused man's innocence. ("How could anyone think it was murder?" you ask yourself. "The sergeant *obviously* committed suicide.")

In less than 10 minutes, Spencer has

Part of Capt. Jerry D. Spencer's unique profession is examining skeletal remains and reviewing slides from crime scenes.

Navy pathologist

brought you to a conclusion that took him more than 100 hours to prove. A conclusion that overturned the specialist's murder conviction and 50-year prison sentence. A conclusion that helps explain Spencer's work at the Armed Forces Institute of Pathology in Washington, D.C.

Spencer, chairman of the institute's forensic science department, is a national leader in forensic medicine, a science that uses medical facts to help solve legal problems.

"Forensic pathology is detective work, and Dr. Spencer has been very active in getting some people put in the brig—and in getting some people out," says Navy Capt. Robert Karnei, deputy director of the tri-service institute.

Forensic pathology is a unique medical profession that brings to mind exhumations and autopsies. It also brings to mind the inimitable "Quincy," television's Sherlock Holmes of the medical world.

According to Spencer, television characters like Quincy don't always offer an accurate picture of his profession, but he's not complaining. "Quincy gave forensic pathologists an identity," says Spencer. "We don't get involved in every aspect of a case like he does, but at least people have some idea of what we do."

Spencer gets a variety of military cases. All "medical legal deaths"—violent deaths and unexplained or mysterious deaths including accidents, suicides and homicides—are reported to his office.

General pathologists conduct the original autopsies in the field and forward their findings to the institute. Spencer and his colleagues review and verify the accuracy of those findings. Few cases offer the chilling drama an outsider would expect. In fact, most boil down to a simple review as part of a routine system of checks and balances.

"We handle about 500 cases per year, and only about 10 percent of them are exciting," says Spencer. The excitement usually begins with a telephone call from an attorney or pathologist in the field requesting Spencer's help with a difficult case.

"I get a lot of calls from attorneys because they are the ones who usually need the help," says Spencer. During a much publicized case involving USS *Ranger* (CV 61) several years ago, he received upwards of 25 calls a day for several weeks.

Enough difficult cases arose in 1984 to send Spencer on 26 trips worldwide during which he performed 15 on-site autopsies, performed three exhumations and testified at 12 military court proceedings.

Spencer's expertise, however, is not limited to military assignments. The U.S. Department of Justice consulted him 30 times in 1984, and called upon his services when an agent of the Drug Enforcement Agency was found murdered in Mexico earlier this year.

When on a case, "he will put in whatever amount of hours are necessary to get the job done, and he will use whatever facilities are available," says Karnei.

Giving reasonable opinions and making good decisions in forensic pathology requires the pursuit of very minute details. In that quest, Spencer has done everything from performing exhumations to using computer enhancements of color negatives to identify a murder weapon, all in search of what he calls "reasonable medical certainty"—a plausible explanation for a certain trait.

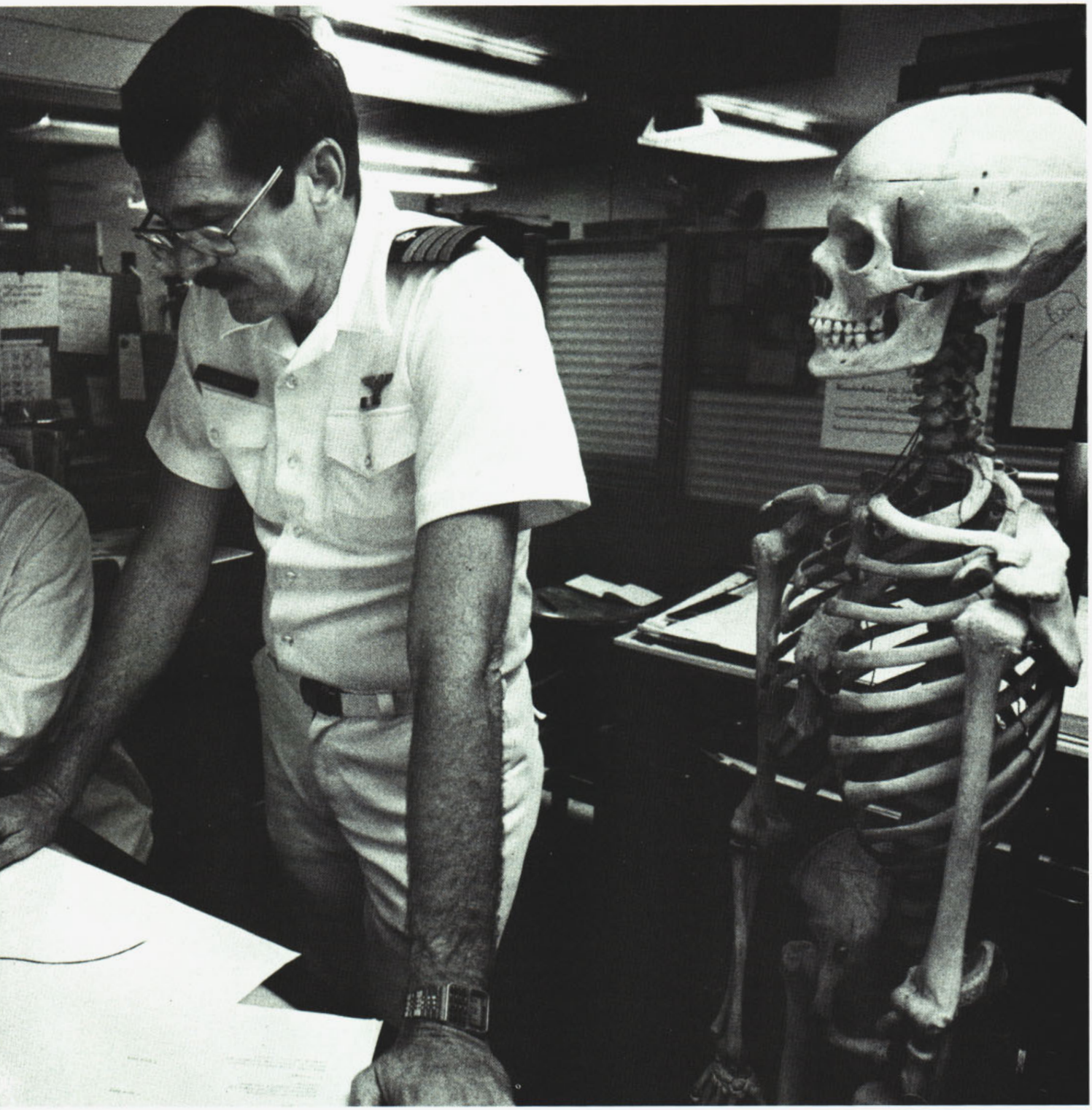
Spencer's conclusions have put him on the opposing side of colleagues who conducted the original autopsies. "That doesn't go over too well, sometimes," he says. "But being absolutely certain becomes very important when people are charged with murder."

Despite a few bruised egos, Spencer's opinions are highly regarded among his colleagues and apparently carry a lot of weight in a courtroom. Out of 60 cases, he has "lost" only four. And even though he usually testifies for the government, he has found 14 occasions to act as a defense witness.

* * *

Spencer has come a long way during his naval career. He is at the top of his profession, a profession in complete contrast to his days as a naval flight officer during the 1960s. He still wears the gold wings of an NFO, but he has the added distinction of being a rare breed of Navy doctor. There are only seven forensic pathologists in the Navy and less than two dozen in the military overall.

After joining the Navy 22 years ago, Spencer first served as a navigator with an airborne early warning squadron which regularly deployed aboard Atlantic Fleet aircraft carriers. He had a slight interest in medicine, but it was his sister who con-



Spencer and medical illustrator Lessy McDonnell discuss a diagram prepared as evidence.

vinced him to ground his aviation career in favor of medical school.

By 1972 he had earned a medical degree and was serving a rotating internship (medicine, surgery, pathology) at Naval Regional Medical Center, San Diego. The idea of a career in forensic medicine first crossed Spencer's mind when he heard a lecture by a forensic pathologist.

"I thought it was really fascinating and thought if I wasn't going into surgery I would go into forensic pathology."

Somewhere along the way to becoming a surgeon, Spencer realized that he really didn't like the idea that some patients die. That was his springboard into forensic medicine. After a clinical internship at San Diego, he went on to do a four-year residency in pathology.

Spencer, however, did not limit himself to forensic pathology. He attended the University of San Diego while stationed

at the naval hospital and arrived at the institute in 1979 with the distinction of being the only forensic pathologist in the Navy who also had a law degree.

He is licensed to practice medicine by the state of California, certified by the National Board of Medical Examiners and the American Board of Pathology, and is a member of the California Bar. There is no denying his professional credentials. But what kind of person opts for a career in a forensic pathology?

In Spencer's case, it is a man who loves people.

"Forensic pathology is exciting and stimulating, but sometimes I miss patient contact," he says. "I really enjoyed working with patients as a medical student and intern. Every once in a while I regret not having more patient contact."

Colleagues describe Spencer as a very friendly, outgoing person who has a lot of friends throughout the pathology community. By keeping everything in perspective, he avoids letting the serious nature of his work overwhelm his personal life.

"Everybody dies, I guess," says Spencer. "Some cases are kind of depressing, especially in young people, but I don't think that much about it in most of my cases.

"Not that I'm detached or callous or anything like that, it's just one of those things. I think it's like any other job. It's something you get used to."

Spencer enjoys sharing his professional experiences with colleagues, students and laymen. On his list of outside activities are 13 professional articles, nine professional presentations, four college-level courses he has instructed, and membership in 10 professional associations.

"Dr. Spencer is at his best when he's in front of a crowd," says Air Force Col. Donald Wright, who has worked with him for a year. "Sometimes he gets in trouble because he gives in and takes on more lectures and teaching assignments than he should."

When Spencer wants to get away from the world of forensic pathology he cracks one of his favorite books and steps back about 40 years in time. A self-described World War II history buff, Spencer says reading is his primary source of relaxation. When he wants a little more excitement, he runs.

"I qualified for the Boston Marathon, but I had to go to Okinawa on a case instead," he says. Spencer really enjoys his work, but the time he must spend away from home has its drawbacks.

His itinerary at the institute has taken him on six trips to Germany, six to Korea, four to Okinawa, three to Panama, and a lot of trips stateside. With a schedule like that, he doesn't get to spend much time with his family. According to Spencer, his son and three daughters have a fair understanding of what he does professionally, but sometimes they don't understand why he must be away from home so often.

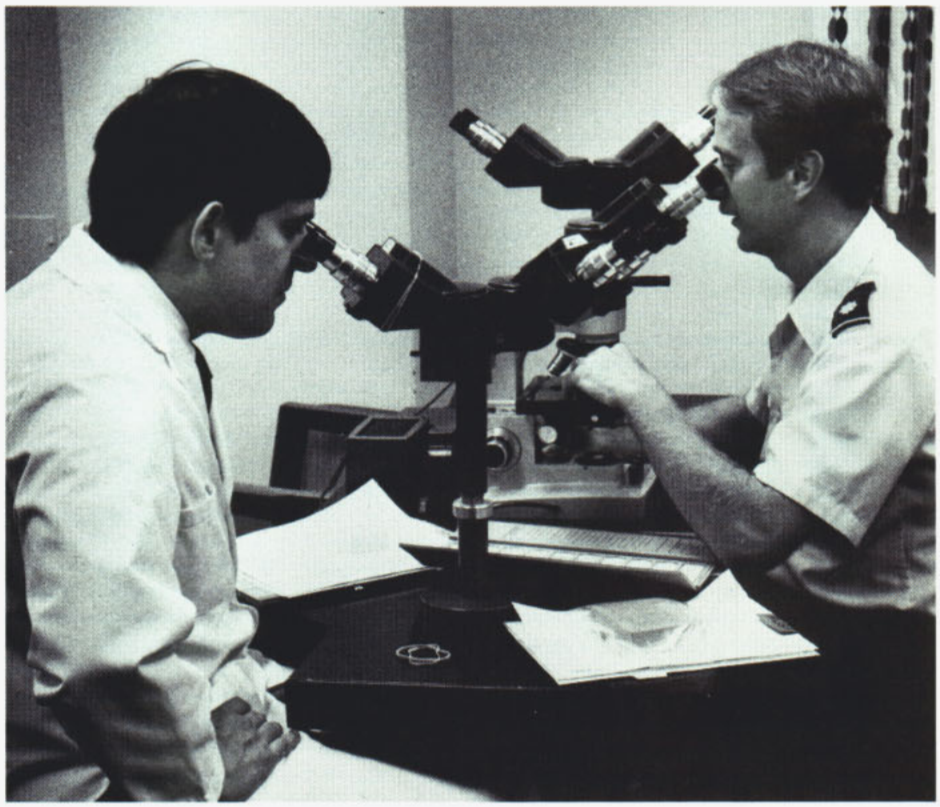
"Right now, the thing that frustrates me

The military's

The Armed Forces Institute of Pathology, located on the grounds of Walter Reed Army Hospital in Washington, D.C., is one of the nation's leading laboratories of pathology.

Pathology is the study of diseases—their nature, causes and development. "This is the mecca of pathology," says Navy Capt. Robert Karnei, deputy director of the tri-service institute. "We have pathologists on this staff who are leaders in the field. You get to see a lot of the unusual here." Some medical cases that a doctor may see only once, if ever, during a career are commonplace at the institute.

The institute is a vast clearinghouse of information and material which pathologists and physicians worldwide can tap for



institute of pathology

quick answers to medical problems. In 1984, the institute's staff provided more than 55,000 consultations and published more than 75 articles in scientific journals.

About one-third of the institute's 600-member staff is military, including a Navy contingent of 50 doctors, hospital corpsmen and clerical support people. To accomplish the institute's mission of consultation, education and research, staff members:

- Maintain a consultation service for the diagnosis of pathologic tissue.
- Conduct experimental and statistical research in the field of pathology.
- Provide instruction in advanced pathology and related subjects.
- Train enlisted people of the armed forces in histopathologic techniques and relevant activities.
- Prepare, obtain and duplicate teaching aids.
- Loan pathologic, photographic and other educational material to the federal medical services, museums, medical schools, scientific institutions and to qualified professional people.
- Operate the American Registry of Pathology as a cooperative enterprise in medical research and education between the institute and the civilian medical profession.
- Maintain a medical illustration service for the collection, preparation, duplication, publication, exhibition, reference and file of medical illustrative material.
- Maintain a medical museum.

* * *

The institute traces its history to rather modest beginnings, when specimens—mostly amputated extremities—were sent to the Army Medical Museum in kegs of diluted alcohol or whiskey.

The museum got its start Aug. 1, 1862, when surgeon John Brinton received orders from the Army Surgeon General "to collect and properly arrange in the 'Military Medical Museum' all specimens of morbid anatomy, both medical and surgical, which may have accumulated since the commencement of the War of the Rebellion, in the various U.S. hospitals, or which may have been retained by any of the medical officers of the Army."

In the earliest days, emphasis was placed on observation by naked eye of the effects of diseases. The adoption and improvement of the compound microscope permitted the study of cells instead of tissues and gross organs.

Through the microscope, organisms that caused disease could be identified and diagnosed with maximum accuracy. This ability to obtain information on cells and organisms resulted in an increasingly important role for the Army Medical Museum.

In 1888, the educational facilities of the museum were made available to the civilian medical profession on a cooperative basis. In 1922, the American Registry of Pathology was founded to establish effective cooperation with civilian medicine.

The museum's name was changed to the Army Institute of Pathology in 1946 when the museum became the central laboratory of pathology for the Army. In 1949 the institute was redesignated the Armed Forces Intitute of Pathology, and in 1950 became the central laboratory of pathology for the Department of Defense and other federal agencies.

The medical museum is still one of the institute's most intriguing aspects. The public museum hall contains the most comprehensive collection of microscopes in the world—ranging from an early sixteenth century model to today's electron microscopes—and a wide variety of medical specimens and historical exhibits that offer glimpses into the world of pathology.

Through the study of disease, the institute's pathologists are helping bridge the gap between basic science and medicine, paving the way for the cures of tomorrow. □

Military and civilian pathologists from around the world work and study at the Armed Forces Institute of Pathology.

most is travel," says Spencer. "I've had 60 trials in the last four years, and all except a couple of them have been outside the D.C. working area."

One wall in Spencer's office is covered with Indian art and his many professional certificates. A bookcase on another wall holds the scores of medical books and files he must pack. The packing boxes that litter the floor are evidence that Spencer is preparing for another trip. After six years at the institute he is transferring to a military hospital in Okinawa. He is looking forward to the change of pace.

"I've been burned out for the past year," says Spencer. "It will be nice getting away from some of these priority cases."

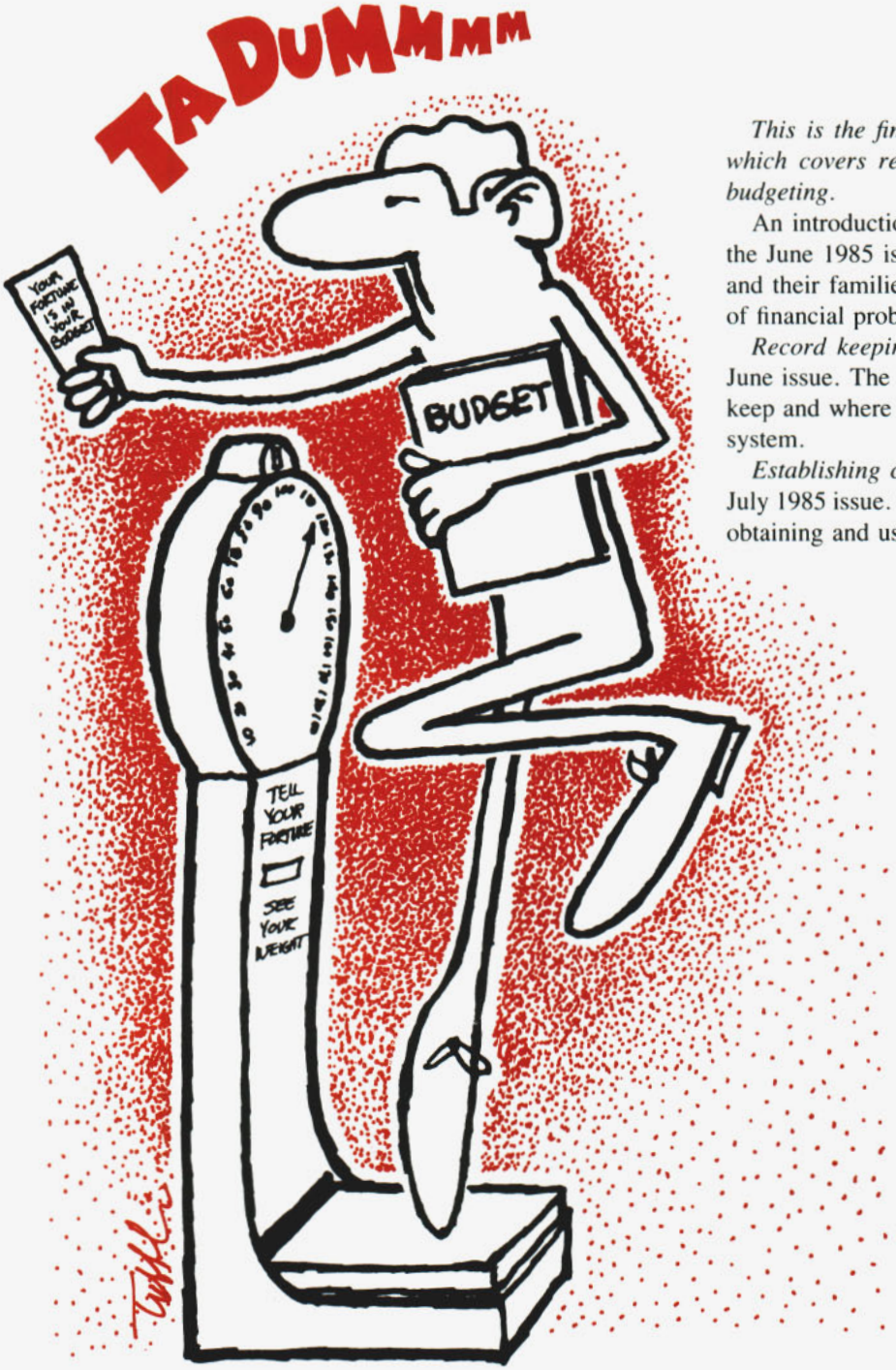
The institute sees a bright side to Spencer's transfer. "It establishes a position for a forensic pathologist in the Far East, so we don't have to send someone all the way from here," says Karnei.

While Spencer is looking forward to a break, in addition to his hospital work, he will still review about 120 forensic cases a year. As Karnei put it: "He won't get bored." □

—Story and photos by JO1(SW) E. Foster-Simeon

Handling your household budget

Managing



This is the final of a three-part article on personal finance which covers record keeping, establishing credit, and *family budgeting.*

An introduction to the series, *Managing your money*, ran in the June 1985 issue of *All Hands*. It told how and why sailors and their families run into financial trouble, the warning signs of financial problems, and where to go for help.

Record keeping, the first part of the series, also ran in the June issue. The article included the kind of personal records to keep and where to keep them, plus a detailed listing of a filing system.

Establishing credit, the second part of the series, ran in the July 1985 issue. The article included ways of establishing credit, obtaining and using credit cards, and determining net worth.

By Faith R. Connors

You can improve the state of your personal finances through careful planning. It isn't as difficult to make ends meet if you give some careful thought to how you manage your money. Why should you have a budget? To help you:

- get maximum benefit from your income;
- prevent waste of your money;
- reduce money worries and frustration;
- ensure money is available for an emergency; and
- plan savings for the future.

Here are some money tips to help you manage your cash flow and to set up a budget that works for you and your family.

Set up your family budget to meet family needs, to provide regular savings and to enable you to stay within your monthly income.

Analyze your expenses for the past year. What were the "fixed expenses," such as rent or mortgage, you made each month?

your money

What were the "irregular expenses" that you paid every so often, such as insurance premiums or auto repairs? What were your "flexible expenses" such as credit card bills, food and clothing.? Take a careful look at your annual expenses and see what you can do to reallocate your resources and improve the quality of your life.

Use a *budget record* to help you set up a realistic budget for your family. Each month, fill out the budget. This will help you to see where your spending problems are, and you can develop excellent money management habits.

Photocopy the budget record for a three-ring notebook. Devote the necessary time each month to keeping your financial records. It takes time to get a good understanding of spending patterns, so stick with it each month.

It takes only a few extra minutes to improve your recordkeeping. Keep shopping receipts in a folder, write the purpose for each check on checks and stubs.

Keep a small pad handy while shopping. Jot down prices of large purchases you plan to make and compare prices from several different stores. Shop at discount outlets whenever possible.

Keep track of your out-of-pocket spending. Use your notebook to make notes on cash spending. Know where your money is going.

Financial goals

Set clear financial plans. Have regular family meetings to talk about financial goals. In your planning sessions, decide together which financial goals are most important for your family. New car? Vacation? New furniture? Appliances? College tuition?

Think about your financial goals. Write them down in your 3-ring binder for planning purposes. When you list your goals, include the dates you intend to reach specific goals and the approximate cost of reaching your goals.

Example: Short range goal (to be achieved in a year or less)

Purchase a new washing machine in eight months. Cost: $320.00 Save $10.00 weekly in a savings account.

Example: Long range goal (more than a year)

Buy a house. Cost $85,000. Save for down payment in higher interest savings account. Five years: save $1,700 yearly. Deposit tax refunds, raises, "windfalls," and re-enlistment bonuses.

Your financial plans are important. Include short-range goals (one year or less) and long range plans. You could begin with just one of each type goal, set up savings accounts for them, and make definite plans to reach them.

Household records

Have a definite place to keep family records. A desk drawer or even a file box from a stationery store can be set up with labeled folders for your household records. Then resolve to keep your records, such as paycheck records, grocery receipts, and checking account records.

In your notebook, have a page for each fixed or flexible account. Pay each bill within the due date.

As you set up your household budget and make changes from time to time, check your annual expenditures for each category with those of a typical family of four. If you are spending more in any category, this may be an area where you will want to reduce your costs.

Average annual percentages for a typical family of four:

Shelter	**25%**
Food	**20%**
Transportation	**15%**
Health Related	**10%**
Clothing	**5%**
Household	**5%**
Personal Expenses	**5%**
Insurance	**5%**
Savings	**5%**
Miscellaneous	**5%**

Build good habits

Reconcile your bank statement every month. Make it a habit to account for all your listed checks and deposits so your bank statement and your checkbook balance will agree. Manage your checking account well—use it only to pay current bills and keep only a minimal balance in it.

Pay yourself first. Plan saving as a "fixed expense." Decide on an amount to be saved from every paycheck. If possible, have the amount withdrawn auto-

Example: Electric Company

Amount Due	*Date Due*	*Date Paid*	*Amount Paid*	*How Paid*	*Note*
$80.00	*1/16*	*1/10*	*$80.00*	*Ck. #303*	

matically before you get your paycheck.

When you get a raise, put that money into savings regularly. Set a goal for its eventual use, such as a down payment for a house, retirement, or college tuition.

Keep your monthly credit card payments under 10 percent of your monthly take-home pay. If you are already paying more than that, stop using your credit cards and concentrate on reducing your credit card debt. Make it a habit to pay more than the minimum installment for credit card bills.

Establish personal allowances for family member. Each person in your family needs some money to call his or her own—no questions asked.

Look for ways to reduce your flexible expenses. Write notes and letters instead of calling long distance. Prepare meals at home instead of eating out. Use fewer convenience foods and prepare your own instead. (It's not only less expensive, but it is much more nutritious.) Review your expenses to see what can be reduced, postponed, or eliminated.

Plan your shopping trips. Don't buy on impulse. Set aside small amounts of money regularly in your short-range goal savings account. Then comparison shop for the item or buy when that item goes on sale. Compare grocery bills when you have shopped near a meal time, and when you have not. Meal time grocery shopping will cost you more.

If you need assistance with your family financial planning, contact the Navy family service center and ask about services offered. □

Types of records to keep

Financial Records.

- *Income:* LES, pay stubs from civilian employment, child support, savings, share accounts, investments, bonds, loans to family or friends.
- *Expenses:* current bills, list of debts for which no bill was issued.
- *Records:* bank and savings statements and account numbers, cancelled checks, receipts for cash purchases, credit agreements, credit account numbers and addresses for reporting loss or theft of credit cards, loans outstanding.

Vehicles.

- Original receipts.
- Loan information or title.
- Insurance coverage.
- Maintenance and repair records, including warranties and guarantees.
- Spare keys or key numbers.
- Registration and driver's manual (kept in the vehicle).

Personal Possessions.

- Original receipts.
- Operating instructions.
- Repair and service guides.
- Repair records and receipts.
- Warranties.
- Identification numbers.

Taxes.

- Federal Income Tax returns . . . for seven years.
- State and personal property tax documentation.
- Supporting evidence.

Medical.

- Record of immunization (civilian family members).
- History of illness and diseases.
- Location of medical records.
- Names and addresses of civilian physicians and dentists.
- CHAMPUS or other health insurance coverage information.

Pets.

- Immunization records.
- License receipts.
- Pedigree.
- Purchase receipt.
- Photo for identification in case of loss.

Education.

- Certificates of successful completion . . . for all family members.
- Reports of continuing education.
- Record of schools attended: names, addresses, dates.

Insurance.

- Policies on life, homeowners, renters, personal effects, vehicle, health, accident, etc.
- Limitations of coverage should be understood, renewal dates and anniversaries should be recorded.

Legal.

- Birth certificates.
- Marriage.
- Adoption.
- Naturalization.
- Citizenship.
- Divorce.
- Passports.
- Death.
- Social Security.
- Wills.
- Power-of-attorney.

Real Estate.

- All papers provided at settlement.
- Tax receipts.
- Insurance Information.
- Survey.
- Inspection receipts.
- Rental agreements.

(Adapted in part from Navy Relief Society personal counseling information.) □

Monthly Budget

PAY & ALLOWANCES OF SM	ACTUAL	PROJECTED	FAMILY INCOME	ACTUAL	PROJECTED
*Base Pay (E– , yrs)			Net Pay of SM		
BAQ			Other Earnings of SM		
VHA			"D" Allotment		
ComRats/Subsistence			Net Pay of Spouse		
*Flight/Submarine Pay			Savings (Total amt)		
*Hazard/Pro Pay			Child Support/AFDC		
*Sea/Foreign Duty Pay			Unemployment Compensation		
Clothing Allowance (BMA/SMA)			Tax Overpayment		
Separation Allowance			Other		
Other					
*TAXABLE ( ) GROSS (A)	$	$	TOTAL FAMILY INCOME (C)	$	$
DEDUCTIONS FROM SM'S PAY	ACTUAL	PROJECTED	FAMILY EXPENSES	ACTUAL	PROJECTED
Social Security (FICA)			Rent/Mortgage Payment		
Fed Income Tax (FIT) (M–S)			Utilities		
State Income Tax (SIT)			Fuel Oil		
Insurance (SGLI)			Telephone (Base rate)		
Insurance (Other)			Food (NRS)		
"D" Allotment			Clothing (NRS)		
"S" Allotment			Car/Transportation Expenses		
CU/Bank Loan (Ends)			Car Insurance		
NRS/ARC Loan (Ends)			Insurance		
Charity Allotment (NRS–CFC)			Child Care		
Government Quarters			Deployed SM Personal Expenses		
Advance Pay (Ends)			Miscellaneous		
Other			Other		
TOTAL DEDUCTIONS (B)	$	$	TOTAL FAMILY EXPENSES (D)	$	$
NEXT PAY $_____NET (A–B)	$	$	VEHICLE _____		
LAST PAY $_____			MAKE – YEAR		

DEBTS

TO WHOM OWED	PURPOSE FOR WHICH INCURRED	DATE INCURRED	ORIGINAL AMOUNT	BALANCE OWED	MONTHS TO GO	MONTHLY PAYMENTS	PROJECTED
1. Advance Pay						ALLOTMENT	
2. Credit Union						ALLOTMENT	
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
			TOTAL OWED	$	SUB (E) TOTAL	$	$
					TOTAL MONTHLY EXPENSES (D+E)	$	$
					SURPLUS ____ DEFICIT ____	$	$

INTERVIEWER _____

DATE _____

NAME _____ SSN _____

Measuring Discovery's

Story and photos by JO2 Jeff Harstedt

A research team at the Naval Postgraduate School, Monterey, Calif., has developed a solid state digital recorder to measure the space shuttle *Discovery*'s noise levels during launches. The experimental recorder will be used this summer and may help reduce damage to sensitive equipment in future flights.

When *Discovery* blasts off from Cape Canaveral, its cargo bay will carry a 200-pound cannister containing an innovative scientific experiment devised by NPS students and built around the new recorder.

"Standard tape recorders weren't getting the job done," said Lt. Tina D'Ercole, an NPS research team member. "And because of problems associated with moving parts and tapes, they have a high rate of failure, especially in the zero gravity of space."

The experimental recording system will sample sound, on six channels, more than 2,000 times per second. It is smaller and lighter than standard tape recorders, requires virtually no maintenance, has minimal power requirements, and has a bubble memory that will not lose data during a power outage.

As circuit boards for the complex recorder were being constructed—literally bit by bit—another group of students addressed the problem of isolating the recorder's microphones from vibration.

Cmdr. Chuck Stehle used a bungee cord to harness the problem.

"I bought a bungee cord, tore it apart, and using the elastic strands, some string and epoxy glue, I built vibration isolation systems for the recorder's microphones."

Next came the problem of figuring out a way to automatically start the recorder just before an actual launch.

"Previous experiments relied on the sound of the main engines igniting to 'activate' recording systems," said Lt. Austin Boyd. "As a result, valuable acoustics data was missed at the precise time of launch."

"We knew that the shuttle's auxiliary power units, or APUs, came on about six minutes prior to lift-off," said Lt. Wes Jordan, "so we decided to somehow use those units to 'power up' our recorder."

noise at launch time

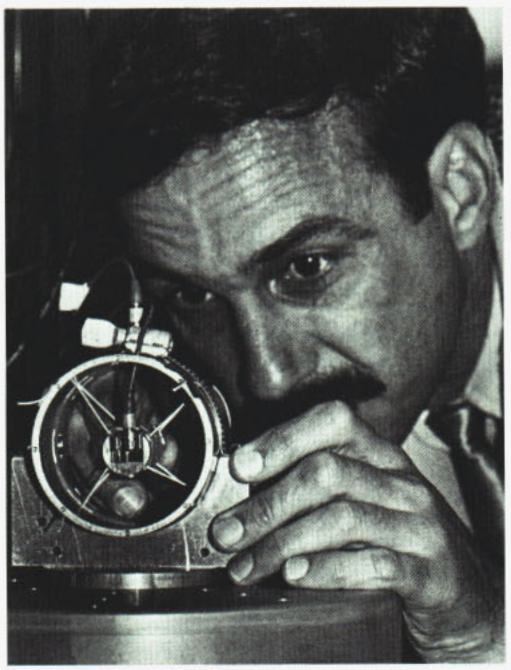
"We obtained a recording of the APUs and, with the aid of a computer, I set about trying to fingerprint, if you will, their distinctive sound vibrations," explained Boyd. "It was very much like detective work.

"Then, one afternoon, on my computer screen, a graphic which looked like a mountain ridge formed at one particular frequency—I'd isolated the 'acoustic signature' of the APUs, and this enabled Wes to build a device to turn on the recorder."

The students' space shuttle project is nearing completion in the labs and workshops of the Naval Postgraduate School.

"This experiment has been an opportunity for us to apply what we've learned in the classroom," said Lt. Bill Toti, project coordinator. "And for many of us, it's another step in the realization of long-held dreams." □

Harstedt is assigned to the Public Affairs Center, San Diego.



Opposite page: Lt. Tom Frey and Lt. Tina D'Ercole assemble the recorder which will measure noise levels in the space shuttle Discovery. Left: Lt. Austin Boyd analyzes a graphic display of the sound frequency which will turn on the recorder automatically as Discovery begins its flight. Above: Cmdr. Chuck Stehle checks the "vibration isolation system" he designed for the recorder's microphone.

Bearings

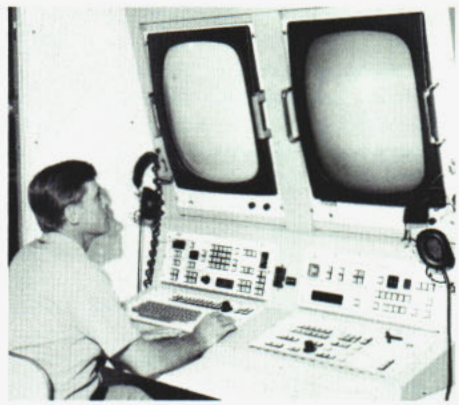
Helo trainer modification

The SH-3 *Sea King* motion based helicopter trainer at Naval Air Station North Island, Calif., recently received a multimillion dollar addition: an acoustic (anti-submarine warfare) modification to the existing flight simulator trainer.

The trainer now can simulate multiple targets and track those targets with simulated active and passive sonobuoys. Antisubmarine warfare missions that previously could be accomplished only with an actual SH-3 and a submarine can now be fully simulated with the trainer modification.

An instructor places simulated contacts into the trainer's computer, and the student aviation anti-submarine warfare operator must find and identify the contacts, as in a real-time situation. This acoustic modification will save money and man-hours in flight time and fuel expenditure, and in aircraft maintenance. ■

—Story by Lt. Jill Hawkins, HS 10 San Diego



An instructor prepares to simulate multiple target contacts on HS 10's trainer computer.

Refugees reunited after 10 years

Quang Pham did not know where he was going when he and his family fled Vietnam. They eventually settled in Houston, and Pham attended Lowell University, Boston, where he majored in electrical engineering.

Saigon was under siege when Alan Tran and two of his brothers left. His family was later reunited in Guam and settled in Toledo, Ohio, where Tran attended the university and majored in electrical engineering.

Quang Pham and Alan Tran had been boyhood friends. They had played on school soccer teams together and had graduated from prep school together. Both wanted to be electrical engineers. That was in Saigon in 1975—then the two teenage boys lost each other in a war.

Tran searched for his friend, found nothing and thought he had died.

"I asked the Red Cross and Vietnamese newspapers if they could locate a guy named Quang Pham. They couldn't. I wrote letters to friends, who said Quang disappeared from Saigon.

"He must have gone to France, Australia, Germany or the United States, I thought. He probably died at sea. We had friends who died at sea. Whole families didn't make it. It was very likely it could have happened to Quang."

It was Pham's first day on the job at the Naval Air Station Point Mugu, Calif., when he went to lunch with a friend. He was introduced to another new employee who had approached the table—Alan Tran.

Tran saw something familiar in Pham and checked the man's Pacific Test Missile Test Center badge. "I knew for sure he was alive," Tran said. "I embraced him and greeted him."

The two men are engineers in the Control Systems Development Division and now work in the same building. "We feel very content," Pham said. "But we still miss our relatives and friends. We left (behind) a lot of memories.

"We didn't come here for money, food or success," Tran said. "We came here for freedom—the freedom to do what I want with my work. I want to work with my hands, be an engineer. People here can sometimes take freedom for granted. People forget. It's easy to forget.

"In my country, over there, they look at me as an enemy—I'm not the son of a Communist member. I know people who are still in concentration camps. After 10 years, they are still in camp. The Communists are terrible, just terrible. They can kill you without bullets; they make you wish you were dead.

"We were ready to risk everything. I thought, 'I have to go to save myself.' Property means nothing. Possessions nothing. I had to just go." He and Pham explained that in their culture, the individual is not important. The family is everything—the name.

"It's not that easy for first-generation families to be successful in another country: They want to go back but cannot because they had to get out of a fighting situation."

Tran and Pham live in Camarillo and spend a lot of their weekends in Orange County's Westminster, where a Vietnamese community thrives. They go there to see parents and friends, to capture the culture they were forced to leave behind.

As they continue with their work at PMTC, the two engineers continue to set goals and map out futures. Pham plans to get his master's degree, "maybe get married and settle down." Tran has similar ideas, but right now spends time visiting friends and his parents.

And both men are certain that this is a place where a first generation can be successful. ■

—Story by JO3 Jim Elliott, PMTC Point Mugu, Calif.

USS Fulton aids Italian orphanage

Some of USS *Fulton*'s (AS 11) sailors wanted to get involved in the community when their ship was at La Maddalena, Sardinia, Italy, recently. And they wanted a challenge. So, they helped repair the buildings of a local orphanage.

The task: sand and refurbish weathered doors, replace broken windows, recaulk, reconstruct and repair book shelves, replace locks, refurbish the institute's enormous gate, and rewire portions of the electrical system.

"We took up collections to pay for the materials," said Ship's Serviceman Seaman Apprentice George Truitt. "Some of the departments helped by contributing wood filler and letting us use tools. I enjoyed seeing the children's faces change from questioning looks to happy smiles.

"There was so much to be done. We didn't have to work as hard as we did, but everybody wanted to help."

Ensign Gordon Caylor acted as a coordinator and translator. "I've done this kind of work before. I've always found these opportunities provide the chance to have a special kind of interrelationship with children.

"Everyone we came into contact with was extremely friendly. They all were quite helpful with the language barrier and seemed to be encouraged by our efforts to communicate."

Boatswain's Mate 2nd Class Daniel W. Uland found the work interesting. "I worked mostly on the doors and gate," he said. "I wanted to be a representative for my guys in the deck department. But it was personal, too. I'm away from my wife, and it was nice being around the children."

Through an interpreter, the institute's Mother Superior said that she "recognizes that the sailors are far away from home and miss their wives and children. I have great sympathy for them. The buildings needed the work, and the children and the staff are very appreciative."

The work done benefited the institute and gave *Fulton* sailors and officers a chance to help the community of La Maddalena. ■

—Story by SN Larry Coffey and JOSN J.B. Whiteley, USS Orion *(AS 18)*

Seabees and crash crew training

Ten Seabees from Naval Mobile Construction Battalion 1 on a routine deployment to Okinawa, Japan, and other sites in the Pacific, recently participated in what was called "a different kind of training for Seabees."

"We had the opportunity to send 10 men to a week-long fire and aircraft crash crew exercise at Camp Futenma (Okinawa)," said Chief Builder Pete Guidry, NMCB 1 training chief. "We jumped at the opportunity because this type training is not normally available for Seabees."

The crash, fire and rescue team of Seabees split their firefighting training time between classroom projects and practical application.

During the week the men studied fire science, different types of extinguishing agents and protective clothing. By the middle of their training cycle they were concentrating on aircraft crashes and fire control.

Their last two days combined dry-runs with the real thing—lighting off and fighting large training fires. ■

—Story by JO1 Roger Gassiott, NMCB 1

A Seabee uses a high-power foam sprayer.

Mail Buoy

Marine salutes the Navy

Of special interest to me is the story about "Mighty Mo" in the November 1984 issue.

During the Okinawan Campaign, I was spotting fire (ANYTHING) from an O.P., north of Naha. We had three tanks knocked out in Wana Draw. I had a hometown buddy in that tank outfit. With a 20-power scope, I spotted the Japanese 47mm anti-tank gun that was doing all the damage. I tried to get fire from Marine artillery and Army artillery or their 4.2 mortars. NO LUCK—too close to the troops. Venting my anger below the O.P., I was informed that BB-63 had returned from shelling the coast of Japan and the JASCO Radio Officer had contact. Together, we agreed on the coordinates selected on my gunnery target map and decided to request selected fire.

I scanned the horizon for a glimpse of *Missouri*'s superstructure so that I would know from which direction to expect the fire. If I couldn't see the *Missouri* her crew couldn't see Okinawa. Did they know where they were? That was a "no recall" projectile coming in. Suddenly, there was a flash on the horizon to our east. From the area of the brilliance, there appeared a tiny speck, growing rapidly, roaring like a freight train as it passed overhead. We lost sight of the 16-inch projectile about 50 feet above the ground, and then the earth shook as it exploded. Sorry, fellows—I take full blame for it striking over target. A correction of "Down 100" was sent back to *Missouri*'s gunners and in it came, landing between the target and the O.P. A piece of shrapnel, as long as my leg, windmilled overhead, catching the grass afire behind the O.P. This drew an immediate response of "UP 50, UP 50, UP 50!" The third round was on target, as were the fourth and fifth. THE NAVY BOYS DID KNOW WHERE THEY WERE.

Now, the point of this letter: THIS MARINE WOULD BE PROUD TO HAVE OUR NAVY SHOOT OVER HIS SHOULDER—ANYTIME, ANYWHERE!

I was aboard *Missouri* Sept 2, 1945, and took the royal tour in 1969 (Bremerton, Wash., Mothball Fleet). I, too, will swell with pride each time this beautiful ship represents our country in any and all situations. "THANKS MEN!"

—George W. Poppe,
former corporal,
USMC.

Reunions

• **OceanDevRon 8 (VXN-8)**—11th annual World Traveller's Ball, Sept. 28, 1985, NAS Patuxent River, Md. Contact LCdr. Chris Myers, VXN-8, NAS Patuxent River, Md. 20670. Telephone (301) 863-4562 (AV) 356-4150.

• **NAS Grosse Ile**—Reunion Oct. 5, 1985, NAS Grosse Ile. Contact Harry A. Barringer, NAS Grosse Ile Reunion, P.O. Box 450003, Mt. Clemens, Mich. 48045.

• **USS Spruance (DD 963)**—Reunion Oct. 11-13, 1985. Contact GSMC(SW) D.R. Norris, NavSurfLant ReadSupp GTMTT, FBPO Norfolk, Va. 23511 or A.R. Kelly, P.O. Box 9208, Norfolk, Va. 23505.

• **USS Hovey (DMS 11 and DD 208)**—Reunion Oct. 31-Nov. 3, 1985, Las Vegas, Nev. 98109. Contact Dusty Hortman, 2827 Monarch St., San Diego, Calif. 92123; telephone (619) 278-0965.

• **C.A.S.U. 3, World War II**—Reunion Oct. 28-Nov. 1, 1985, Hot Springs, Ark. Contact J. Murray Johns, 12922 S. 123rd E. Ave., Broken Arrow, Okla. 74011; telephone (918) 369-5467.

• **459th Bombardment Group Association and Associated Units (756, 757, 758, 759)**—Reunion Oct. 31-Nov. 3, 1985, Tucson, Ariz. Contact J.F. Devney, 90 Kimbark Road, Rochester, N.Y. 14610; telephone (716) 381-6174.

• **USS Conway (DD 507)**—Planning a reunion for World War II, Korea and Vietnam veterans. Contact Carl Shand, Rd. #3, Ware Road, Fulton, N.Y. 13069; telephone (315) 592-7891.

• **USCG Shawnee**—Reunion Sept. 11–12, 1985, South Lake Tahoe, Calif. Contact Bernard E. Peterson, 3350 Ticonderoga Dr., Fairfield, Calif. 94533; telephone (707) 429-0851.

• **USS Charrette (DD 581)**—Reunion Sept. 11–14, 1985, Hampton, Va. Contact G.P. Joyce, 2409 Lookout Court, Virginia Beach, Va. 23455.

• **USS Bell (DD 587)**—Reunion Sept. 13–15, 1985, Twin Cities, Minn. Contact Doug Wetherby, 1331 Fremont Ave., St. Paul, Minn. 55106; telephone (612) 774-5746.

• **USS Stephen Potter (DD 538)**—Reunion Sept. 19–22, 1985, St. Louis. Contact Don Huston, 19202 20th N.W., Seattle, Wash. 98177; telephone (206) 542-3495.

• **USS Sumner (DD 692), USS Moale (DD 693), USS Cooper (DD 695), VPB 34, USS Orca (AVP 49), LST 464, Battle of Ormoc Bay, Leyte, P.I., support units**—Reunion Sept. 19–22, 1985. Contact Warren Begley, 609 Newark Avenue, Elizabeth, N.J. 07208.

• **USS Alcor (AR 10/AD 34)**—Reunion Sept. 19–21, 1985, Norfolk, Va. Contact Lloyd Belperain, 145 Lafayette Ave., Norfolk, Va. 23503; telephone (804) 587-8618.

• **USS Farenholt (DD 491)**—Reunion Sept. 19–22, 1985, Williamsburg, Va. Contact Frank K. Gold, 14640 Tynewick Terrace, Silver Spring, Md. 20906; telephone (301) 598-5484.

• **USS Independence (CVL 22)**—Reunion Sept. 19–21, 1985, Omaha, Neb. Contact Bob Spinharney, 10511 "O" St., Omaha, Neb. 68127.

• **USS Quincy**—Reunion Sept. 19–22, 1985, San Diego. Contact Albert Levesque, 46 Foster St., Pawtucket, R.I. 02861.

• **USS Indiana (BB 58)**—Reunion Sept. 19–22, 1985, Maple Shade, N.J. Contact Tom Ruff, 3064 Indian River Dr. N.E., Palm Bay, Fla. 32905.

• **USS American Legion (APA 17)**—Reunion Sept. 19–22, 1985. Contact John N. Zuella, 7434 10th St. N., St. Petersburg, Fla. 33702.

• **USS Borie (DD 215)**—Reunion Sept. 20–22, 1985, Orlando, Fla. Contact Bob Manning, 310 W. Siesta Ave., Thousand Oaks, Calif. 91360; telephone (805) 497-2549.

• **USCOMSOLANT**—Reunion being planned. Contact YNC Donald M. Harrington, 168 Teakwood Circle W, W. Middleburg, Fla. 32068; telephone (904) 272-6794.

• **USS Langley Covered Wagon Association (CV 1/AV 3), USS Whipple (DD 217), USS Pecos (AO 6)**—Reunion Sept. 19–22, 1985, San Diego. Contact George Wade, 2005 Cordova Place, Carlsbad, Calif. 92008; telephone (619) 729-3296.

• **PatRon 5 MAD Fox Alumni**—Reunion Sept. 20–21, 1985, Orange Park, Fla. Contact Raymond E. Chute, P.O. Box 2071, Orange Park, Fla. 32067-2071.

• **USS Kimberly (DD 521)**—Reunion Sept. 20–22, 1985, Rosemont, Ill. Contact Arthur C. Forster, 2312 Nela Ave., Orlando, Fla.

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Reunions

32809; telephone (305) 855-5625.

• **Navy VPB 26**—Reunion Sept. 20–22, 1985, Corning, N.Y. Contact R.J. Moreiko, Road #8, Box 594, Binghamton, N.Y. 13904; telephone (607) 723-9120.

• **USS R.L. Wilson (DD/DDE 847)**—Reunion Sept. 20–22, 1985, Lancaster, Pa. Contact Robert J. Rudy, 330 S. 7th St., Lebanon, Pa. 17042; telephone (717) 273-8726.

• **USS Canberra (CA 70/CAG 2) and HMAS Canberra**—Reunion Sept. 20–24, 1985, Brisbane, Australia. Contact James L. Perreten, 4401 Graywood Ave., Long Beach, Calif. 90808; telephone (213) 425-3390.

• **LCI (L) Flotilla II**—Reunion Sept. 26–28, 1985, Mystic, Conn. Contact Paul "Nick" Carter, 402 S. Lucas St., Iowa City, Iowa 52240; telephone (319) 338-2473.

• **USS LST 312**—Reunion Sept. 26–29, 1985, Virginia Beach, Va. Contact Vince Gagliardi, 9506 D 3rd Bay, Norfolk, Va. 23518; telephone (804) 587-0752.

• **USS Reid (DD 369)**—Reunion Sept. 26–29, 1985, Tulsa, Okla. Contact Robert T. Sneed, 1537 N. 59th St., Milwaukee, Wis. 53208.

• **USS New Mexico (BB 40)**—Reunion Sept. 27–29, 1985, Chattanooga, Tenn. Contact LeRoy Miller, 8619 Villa Crest Dr., St. Louis, Mo. 63126; telephone (314) 842-1806.

• **USS Frybarger (DE 705)**—Reunion Sept. 27–29, 1985, Myrtle Beach, S.C. Contact Alex W. Boyd, 5107 Bryce Lane, Richmond, Va. 23224.

• **Carrier Escort Sailors Association**—for anyone who served in carrier escorts. Write W.W. Irwin Jr., 2134 Hoyt Dr., Baton Rouge, La. 70816.

• **USS LST 699**—Reunion October 1985, Syracuse, N.Y., for World War II crew members. Contact Oren C. Knapp, 77 Oneida St., Oneonta, N.Y. 13820; telephone (607) 432-1392.

• **USS Monrovia (APA 31)**—Reunion October 1985. Contact Art Dunkelberger, 1138 Rana Villa Ave., Camp Hill, Pa. 17011; telephone (717) 761-2473.

• **SSK 2/SSK 3**—Reunion October 1985, Norfolk, Va. Contact Robert Poulin, 3428 Kings Lake Drive, Virginia Beach, Va. 23452; telephone (804) 486-5125.

• **USS Nashville (CL 43)**—Reunion Oct. 2–4, 1985, Orlando, Fla. Contact A.B. Speed, 13229 Des Moines Way S., Seattle, Wash. 98168; telephone (206) 762-0209.

• **USS Chevalier (DD 451)**—Reunion October 1985, San Diego. Contact Kurt W. Bocian 24853 96th Ave., S. #1, Kent, Wash. 98031-4802; telephone (206) 854-5190.

• **USS Fletcher (DD/DDE 445)**—Reunion Oct. 3–6, 1985, Alexandria, Va. Contact James L. Shankster, 1036 Hampton Road, Harrah, Okla. 73045.

• **USS Metcalf (DD 595)**—Reunion Oct. 2–6, 1985, Hampton, Va. Contact John M. Chittum, 350 S. Walnut St., Huntington, W.Va. 25705; telephone (304) 523-6963.

• **USS Franks (DD 554)**—Reunion Oct. 3–6, 1985, San Diego. Contact Bob Numbers, 1240 Woodside Road, #21, Redwood City, Calif. 94061.

• **USS Elokomin (AO 55)**—Shipmates interested in a reunion, contact Ange Trippy, 5425 Tonawanda Creek, N. Tonawanda, N.Y. 140120.

• **"Banana Fleet Marines"**—Reunion Oct. 9–11, 1985, Fort Walton Beach, Fla. Contact Hank Thalgott, P.O. Box 95, Oxford, Fla. 32684; telephone (904) 748-2587.

• **USS Joyce (DE 317)**—Reunion Oct. 9–13, 1985, Baltimore. Contact Joe Helminger, 1513 Huron Ave., Metairie, La. 70005; telephone (504) 831-1454.

• **USS Hansford (APA 106)**—Reunion Oct. 10–12, 1985, Reno, Nev. Contact Billy W. Barnett, 1746 Trenton Ave., Bremerton, Wash. 98310.

• **USS Chester (CA 27)**—Reunion Oct. 10-12, 1985, Orlando, Fla. Contact Bobby E. Osborne, P.O. Box 1057, Waxahachie, Texas 75165; telephone (214) 937-8308.

• **USS Paul Hamilton (DD 590)/USS Twiggs (DD 591)**—Reunion Oct. 10–12, 1985, Norfolk, Va. Contact Walter B. Tucker, 2437 Two Oaks Dr., Charleston, S.C. 29407.

• **Marine Corps Aviation Association**—Reunion Oct. 10–13, 1985, Chicago. Contact J.B. Maas Jr., P.O. Box 296, Quantico, Va. 22134.

• **USS Register (APD 92)**—Reunion Oct. 11–13, 1985, Indianapolis. Contact Charles Troup, 2521 N. Lake Mitchell Dr., Cadillac, Mich. 49601; telephone (616) 775-2580.

• **LST 325**—Reunion Oct. 11–13, 1985, Norfolk, Va. Contact C.W. Conway, 233 Oakwood St., Hammond, Ind. 46324; telephone (219) 933-7558.

• **USS Ellyson (DD 19), (DMS 19)**—Reunion Oct. 11–13, 1985, Charleston, S.C. Contact James R. Galbreth, 8927 Carriage Lane, Indianapolis, Ind. 46256; telephone (317) 849-3315.

• **USS Major (DE 796)**—Reunion Oct. 11–13, 1985, Louisville, Ky. Contact C.C. Wilson, Road 2, Box W-10, Stonington, Conn. 06378.

• **USS Weedon (DE 797)**—Reunion Oct. 11–14, 1985, Virginia Beach, Va. Contact Ed Hansen, 495 Hilltop Lane, Cincinnati, Ohio 45215; telephone (513) 522-8625.

• **USS Register (APD 92)**—Reunion Oct. 11–13, 1985, Indianapolis. Contact Charles E. Troup, 2521 N. Lake Mitchell Dr., Cadillac, Mich. 49601; telephone (616) 775-2580.

• **USS Helm (DD 388)**—Reunion Oct. 13–16, 1985, Kissimmee, Fla. Contact Thomas J. Reilly, 412 E. Grand Ave., Rahway, N.J. 07065; telephone (201) 382-0481.

• **USS Saucy (PG 65)**—Reunion Oct. 16–19, 1985, Charleston, S.C. Contact Henry Rogers, 38 Falcon Terrace, Middletown, Conn. 06457; telephone (203) 346-6701.

• **Marine Bombing Squadron VMB 611**—Reunion Oct. 16–20, 1985, King of Prussia, Pa. Contact Gilbert DeBlois, 9904 Stoughton Road, Fairfax, Va. 22032.

• **Patrol Squadron 45**—Reunion Oct. 17–19, 1985, Pensacola, Fla. Contact Mort Eckhouse, 4207 Rosebud Court, Pensacola, Fla. 32504; telephone (904) 477-3661.

• **USS Russell (DD 414)**—Reunion Oct. 17–19, 1985, San Diego. Contact Tom Murphy, 904 E. North Ave., Lompoc, Calif. 93436.

• **USS Edison (DD 439)**—Reunion Oct. 18–20, 1985, Orlando, Fla. Contact Larry Whetstine, 8083 Haviland Dr., Linden, Mich. 48451; telephone (313) 735-5369.

• **USS Grayson (DD 435)**—Reunion Oct. 18–20, 1985, Charleston, S.C. Contact Frank Erdos, 2310 Canal Bluff Place, Sarasota, Fla. 33581.

• **26th USNCB Association**—Reunion Oct. 24–26, 1985, Paducah, Ky. Contact Harry Friedrich, 3671 Mockingbird Lane, Dayton, Ohio 45430.

• **USS Christoper (DE 100)**—Reunion Oct. 25–26, 1985, Charlotte, N.C. Contact S. Jack Hughes, Route 14, Box 482, Kings Mountain, N.C. 28086; telephone (704) 739-6269.

• **USS Gambier Bay (CVE 73) and VC 10 Association**—Reunion Oct. 24–27, 1985, Nashville, Tenn. Contact Tony Potochniak, 1100 Holly Lane, Endicott, N.Y. 13760.

• **USS St. Louis (CVE 63)**—Reunion Oct. 24-26, 1985, St. Louis. Contact John Ibe, 1477 Lakeridge Lane, El Cajon, Calif. 92020; telephone (619) 458-9822.

• **USS Lamson (DD 367)**—Reunion Oct. 25–28, 1985, Nashville, Tenn. Contact Ray Duley, Heritage Square L-3, Mission, Texas 78572; telephone (512) 581-4632.

• **USS Enterprise (CV 6)**—Reunion in Painsville, Ohio, for all military veterans active, inactive, and retired for "Pearl Harbor Remembrance Day." Contact William Kochever, 1840 Mentor Ave., Painsville, Ohio 44077; telephone (206) 354-9530.

CHRISTMAS MAILING DATES—1985

Military Mail—Outbound

To assure the timely arrival at overseas destinations for Christmas delivery, all mail should be posted in the Continental United States on or before the following dates in 1985:

Destination	Priority	Letters	Parcels		Surface
			Airlift Space Available		
			(PAL)	(SAM)	
Africa	2 Dec.	2 Dec.	11 Nov.	4 Nov.	4 Nov.
Alaska	9 Dec.	9 Dec.	2 Dec.	25 Nov.	25 Nov.
Hawaii	9 Dec.	9 Dec.			25 Nov.
Australia	25 Nov.	25 Nov.	11 Nov.	4 Nov.	18 Oct.
Caribbean/West Indies	9 Dec.	9 Dec.	25 Nov.	18 Nov.	18 Nov.
Central and South America	25 Nov.	25 Nov.	11 Nov.	4 Nov.	1 Nov.
Europe	6 Dec.	6 Dec.	25 Nov.	15 Nov.	1 Nov.
Far East	6 Dec.	6 Dec.	25 Nov.	15 Nov.	18 Oct.
Greenland	2 Dec.	2 Dec.	25 Nov.	18 Nov.	1 Nov.
Iceland	9 Dec.	9 Dec.	25 Nov.	18 Nov.	1 Nov.
Mid-East	29 Nov.	29 Nov.	4 Nov.	28 Oct.	28 Oct.
South and East Asia	25 Nov.	25 Nov.	8 Nov.	4 Nov.	18 Oct.

Outside the Continental United States, i.e., Puerto Rico, Virgin Islands, Hawaii, Alaska, and Trust Territories, customers should request posting dates which will insure that Christmas mail en route to other countries is available in the Continental United States by the dates listed above.

Military Mail—Inbound

To assure timely arrival and delivery at United States destinations, all mail should be received at the gateway points by the following dates:

Destination	Priority	Letters	Parcels		Surface
			Airlift Space Available		
			(PAL)	(SAM)	
Gateway Points	13 Dec.	13 Dec.	11 Dec.	2 Dec.	2 Dec.

International Mail—Outbound

Destination	Air Parcels	Airmail Letters/Cards	Surface
North and Northwest Africa	25 Nov.	2 Dec.	18 Oct.
Australia	25 Nov.	25 Nov.	18 Oct.
Caribbean/West Indies	11 Dec.	11 Dec.	11 Nov.
Central and South America	4 Dec.	4 Dec.	4 Nov.
Europe	2 Dec.	6 Dec.	4 Nov.
Far East	2 Dec.	6 Dec.	18 Oct.
Mid-East	25 Nov.	29 Nov.	18 Oct.
Southeast Asia	25 Nov.	25 Nov.	18 Oct.
Southeast Africa	25 Nov.	2 Dec.	18 Oct.
West Africa	25 Nov.	2 Dec.	18 Oct.

Outside the Continental United States, i.e., Puerto Rico, Virgin Islands, Hawaii, Alaska, and Trust Territories, customers should request posting dates which will insure that Christmas mail en route to other countries is available in the Continental United States by the dates listed above.

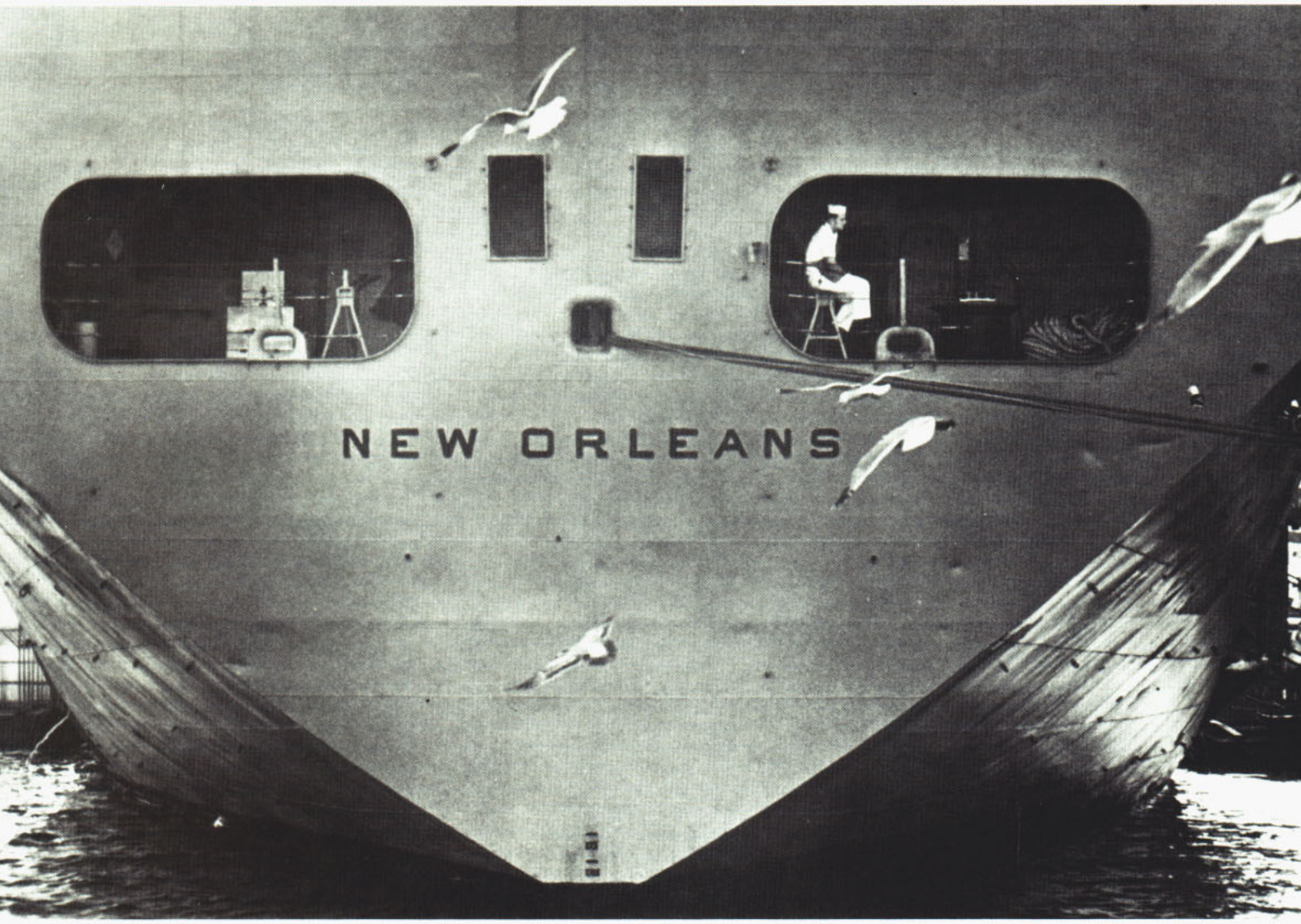
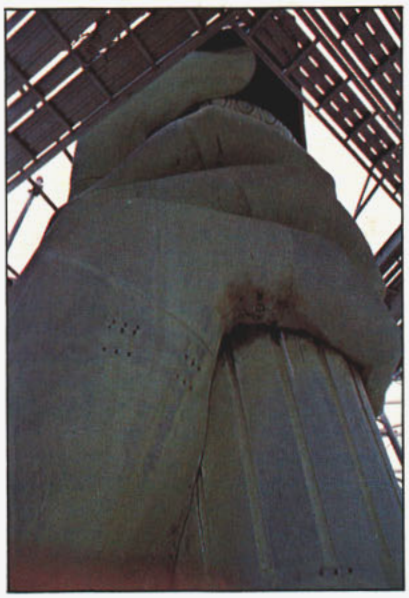


Photo by PH2 Randy Hayes

A sailor takes advantage of a quiet moment aboard USS New Orleans (LPH 11). The ship was at its San Diego homeport.



Photos by SSgt. Cecil Stack, *Soldier's* Magazine

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